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*A Refutation of the Darwinian
Conception of the Origin
of Mankind*

Revised Edition

By JOHN C. STALLCUP

*Tacoma, Washington
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PREFACE

While the views stated herein touching intelligence in or by way of the sun, and life Eternal in the intelligence of mankind, seem to be within the scope of the subject under discussion, yet they are not deemed essential to, nor are they relied upon in showing that the Darwinian Conception is a false conception; and what is said touching the same need not be counted in the proof on that subject; the facts disclosed in the geological record being, as I think, sufficient and conclusive thereon.

The apparently irregular way the questions herein and the evidence touching the same have been presented, by dropping the same and taking them up again—presenting them in “broken doses,” in a manner should, I presume, have a word of explanation.

This way is believed to be the better way in cases where we have to dig for the truth in regions new and but little explored. I have often noticed in the hearing of intricate cases in court, when the introduction of evidence and the discussion of the propositions involved have been in progress in like manner in a way apparently confused for some time, a fact would bob up giving forth much light and thereby making the way to a correct decision perfectly clear; and which would have been entirely lost to view but for the heightened perception and acquaintance with the

facts and factors involved, which had been gradually produced by the tedious and "broken dose" way the hearing had proceeded.

Where many facts, more or less hidden from view and confused, are involved, it is, I think, the better way to proceed in presenting them; because it is unwise, if not impossible, to bolt them down in one gulp.

And for the purpose of avoiding confusion in this respect as much as possible, the matter herein is divided into paragraphs separately distinguished by number.

Some expressions and views set forth herein may appear to be out of accord with the true conception of the Christian religion. I think, however, that upon reflection the same will be found to be more imaginary than real.

This publication is limited to 200 copies, which I am having printed and bound in book form for distribution among my personal acquaintances, the public libraries, the priests, preachers, and scientists.

JOHN C. STALLCUP.

Tacoma, State of Washington,

U. S. A.

July 31, 1905.

Preface to the Revised Edition

Having something more to add to what was stated in the publication made in 1905, and in the meantime having obtained a copy of Couvier's work "On the Revolutions of the Earth's Surface and the Changes Which They Have Wrought in the Animal World," I have concluded to publish this edition for the purpose of adding much that will further elucidate the views stated in the original publication. This publication will be limited to 250 copies and will be distributed as the original publication was, except that the fifty additional copies will go to certain acquaintances of mine who are, I think, specially capable of giving attention to facts and have vision capable of penetrating into the depth of things and will fairly criticise the errors occurring to them herein.

JOHN C. STALLCUP.

Tacoma, Wash., April, 1913.

A REFUTATION
OF THE
Darwinian Conception of the
Origin of Mankind

1. The Darwinian Conception of the Origin of Mankind, supported and maintained by Tyndal, Huxley, Spencer, Haeckel and others, has, I think, produced incalculable confusion and disaster, supplanted better anchorages, and done much to set us adrift on a sea of error.

2. The Conception reached its greatest force and acceptance about twenty years ago, since which time it is believed to be losing the footing it had gained. It was enthusiastically embraced and advocated by many of the German thinkers and others who were bitterly hostile to the Roman Catholic Church, presumably largely because of the historical accounts of the bloody deeds of that church during the recent centuries, and doubtless believing that by the establishment of the Darwinian Conception, that church, its force and faith would be entirely overthrown.

3. The Roman Catholic Church, however, remained unconcerned and unaffected by the propagation and wide acceptance of the conception, while the Protestant theological seminaries and

many of the Protestant clergy accepted the same as an assumption of advanced learning, and vainly attempted to blend it with their faith and preaching. As a result of this and other kindred causes it is believed that the Protestant churches have declined much in force and faith, while the Catholic Church has *gained* much therein.

4. Taking the universe as a whole thing, a unit, with everything in it as a part thereof, it follows that to fully and accurately understand any part of it, one must have some general conception of the whole—and must have such conception by the force of the light of that portion within his vision.

5. While the intellect of mankind is too meagre for such comprehension to any great extent, yet there are now and have been men of intelligence sufficient to thus cast a light far beyond our immediate environment.

6. The great Cuvier was endowed with an intelligence most remarkable in this respect. His was the first, if not the only mind, that could with one fossilized bone of an extinct species of the animal creation, supply and erect the remainder of the whole frame as it was in its day of life on the earth.

7. In like manner, I think we may read the record and trace the truth touching our presence and coming here on the earth and plainly see that the Darwinian Conception thereof is entirely erroneous.

8. Before there can be a satisfactory under-

standing or interpretation of the facts found in the geological record in the earth's crust, geology itself must be established upon some basis.

At present it is incomplete, is without basic principles recognized and understood; is in no sense an established comprehensive science.

Many geological facts have been gathered; enough, I think, by which we may find the basic truths of geology upon which a comprehensive view may be had.

To this end I present some facts for consideration. The following comprise some of those which have been found and accepted by geologists:

I.

That there have been different periods upon the earth, each of an order of rocks and life peculiar thereto, and that the said rocks and debris thereof contain the fossil remains of the things of life of that period of the earth's existence.

II.

That the earth has always contained within its crust a molten material of intense heat.

III.

That the different mountain ranges of the earth were not projected and formed at the same time, but at different times and with long periods of time intervening.

IV.

That the mountain ranges of the earth constitute elevated rims on the sides of the continents, or were so situated when made.

V.

That mountain ranges, as to their magnitude, were, when made, in a manner commensurate with the magnitude of the ocean upon which they bordered, that is to say, the larger the ocean the larger the mountains facing the same.

VI.

The mountain ranges are produced by a side pressure force from the ocean side thereof, together with an uplift force from underneath, elevating, breaking and crushing the earth's crust upon a large scale, generally running northerly and southerly at the ocean's edge of the continents and accompanied with the action of intense heat and water, that is to say, the evidence of such force is present in all mountain ranges.

VII.

That at times during former periods a warm and genial climate prevailed all over the now temperate and far into the frigid zones of the earth, causing tropical products to grow where ice now prevails the year round.

VIII.

That at other times during the earth's existence nearly all the earth, from the poles toward the equator to the sun's path, was covered with an immense body of snow and ice; these periods being now referred to as the glacial period or periods.

IX.

That all round the earth, near to and towards, and at the poles, there is a massive deposit of ice

which seems permanently established there, and capable of resisting all efforts of the sun's heat toward its removal; the supplies thereto apparently being equal to the wastes thereof.

X.

That the cold of this region, and the heat of the tropics, produce the main air currents, and ocean currents, which now distribute the heat and cold upon the earth.

9. Many attempts have been made to account for and harmonize these and other remarkable facts found in this geological record, all of which have been more or less unsatisfactory and unacceptable; the attempt here made to that end is based upon a proper recognition of the results necessarily produced by the upheavals which produced the mountains of the earth, together with other self-evident facts, viz.: that there was a time since the Archæan period when these deposits of ice and cold, constituting the two frigid bowls of ice at the poles of the earth, were not in existence at all—that they necessarily got there through moisture in the atmosphere—that on the earth's path an immense quantity of heat is produced by the sun on the earth—that when these deposits of ice were not upon the earth this heat was distributed differently from what it now is.

10. I think it is evident that the earth has met with several catastrophes; that in each of the same, certainly in the last one, all the living things then on the earth were destroyed; that by such catastrophes it is that we have marked the several

geological periods of rock and life upon the earth; that after each catastrophe, life upon the earth was again reinstated by contact of the sun's heat with the then dense vapor enveloping the earth, impregnated with the elements of the ocean's water and the earth's internal elements, and that these catastrophes were produced by upheavals of the earth's crust, resulting in mountain-making.

11. The glacials were produced by heat, water and cold, and, I think, in comparatively rapid succession; evidenced by many facts, notably the hairy elephants found preserved intact in the ice of Siberia from the last catastrophe, as well as the remains of tropical animals found in all the present frigid zones of the earth.

The action of heat and water and the earth's chemical ingredients on the ocean's edge in mountain-making, cracking, crushing, heaving and boiling a great portion of the earth's crust and ocean water like a pot of mush, eruption upon eruption for quite a length of time, converted to steam a vast portion of the water of the oceans as it came in contact with the endless heat from beneath the earth's crust caused by the upheaval breaks thereof; thus, the endless water of the oceans came in contact with the endless heat within the earth; thus the boiling water ascended in steam, producing a dense, moist atmosphere enveloping the earth, dense, warm and deep, leaving the earth enveloped in dense cloud, and a sunless, moonless, starless night of black darkness.

12. In time the steam descended upon the earth in awful rain, until it turned to snow and ice, thus producing the ice of the glacial period. The sun's heat being thus upon this dense state of the earth's atmosphere, and the intense heat of the earth's surface being suppressed by the ocean water and rain; in time the cold commenced to set in and the moisture of the atmosphere began to fall and congeal.

During which time, however, the force and effect of the sun upon the things upon the earth's surface were entirely cut off.

It will be noticed that in such contact of such heat and water and chemicals, and such elevation of the ocean bottom, that thereby the water of the oceans would necessarily recede or roll back with great force, and would come again in waves of incalculable height and force, dashing against and on the newly-formed mountain ranges, producing the side pressure—the evidence of which is found in all mountain ranges.

13. The change from the moist, heated state to the cold, glacial state was as follows: The cooling of this moist atmosphere first occurred at the greatest distance from the equator and from the place of the upheavals; and the falling and freezing of the moisture there first commenced, and the cold then rapidly intensified, and then advanced toward the equator.

14. After the fall of this great quantity of moisture, much of it being in the form of ice, upon the earth on both sides of the sun's pathway, then

the dense state of the atmosphere was dissipated and the sun again shone upon the earth—that portion covered with ice as well as that part not so covered; then the thaw and the glacial movements commenced and progressed with the work of ridding the earth of this pall of ice; but such work in time reached its limit, leaving that bowl of ice around each of the poles, and thereby leaving portions of the earth bereft of the genial climate which, prior to permanent polar ice, prevailed all over the now frigid zones of the earth.

15. Before these catastrophes laid down more snow and ice than the sun could afterward melt, the cheerful rays of the sun and the unobstructed heat from the equator, and the flow of the warm water of the oceans at the equator, gave warmth to every zone, but since the deposit of this ice around the poles and its permanent establishment there, the warm climes have receded toward the equator, and the air currents of the earth, and the water currents of the ocean, in the main are caused by and subject to the cold of this ice and the heat of the sun's path at the equator.

16. By the evaporation caused by such an upheaval the size and weight of the oceans were greatly decreased, but by the thaw the water again returned to the oceans, where it is again pressing toward the distant center of gravity, and the weakening of the earth's crust proceeds (by fusing, and by penetration of vapor from beneath) at the place where the new mountains and the ocean join. So are the mountain-making

forces constantly in action, and are now pressing to another catastrophe unless the earth's crust is now grown thick enough to resist the forces to which it has heretofore yielded. By looking upon the map and observing the mountains on the western side of the American continents, it will be seen that the earth's crust at the ocean's edge must have been weakened there by the breaks and cracks by the upheaval process there at the time thereof, by fractures on the underside thereof, and by fusing, by reason of its being depressed in to the molten heat underlying the earth's crust there; whether for these reasons or for others, it is conceded by the geologists that the weakest place on the earth's crust must always be along the ocean's edge.

17. The great scope of the Pacific extends away off westward and presses its great weight toward the distant center of the earth, thus producing the pressure which with the uplift forces hereinafter referred to have heretofore produced the forces which were present in the catastrophes recorded in the geological history of the earth.

18. It must be remembered that in the upheavals which produced the mountain ranges upon the west side of the American continents there was involved in the erupted portions of the earth's crust hundreds of miles in width, by thousands in length; and it would seem evident therefrom that all living things on the earth would perish in such eruptions, convulsions and upheavals.

19. It will be seen that the water of the ocean (unlike the other matter of the earth's composition) constitutes a distinct and segregated element, and of a weight proportionately nearly equal to that of the materials of the earth's crust, of incalculable magnitude, restless and surging; so it is evident that the weak places in the earth's crust supporting this great weight of water must have been affected thereby and finally yielded thereto, especially when a corresponding pressure was going on upon the opposite side of the earth's surface, so that we have much the same result as we would in pressing a ripe peach, viz.: a rupture of the skin at the weak place and a protrusion there. A map of the American continents with their mountain ranges and the oceans on each side constitute a diagram of this view in so far as the forces operating upon the surface are now under consideration.

20. The lava floods of the Sierra and Cascade ranges of mountains verify, I think, the correctness of this view. Throughout a large portion of California, Oregon and Washington there is a continuous sheet of lava several hundred feet thick an area of one thousand miles in length by over one hundred miles in width. It is evident, as stated by the eminent geologist, Prof. LeCont, that this lava issued not from volcanic craters but from the molten matter underlying the earth's crust and through fissures or breaks produced in the earth's crust.

21. It is conceded that the projections of the

mountain ranges of the earth have occurred at the then ocean's edge, but the explanation given by some geologists for the latter fact (viz.: sedimentary deposits there) is vague, and to me unintelligible.

22. I have already set forth the claim that the ocean's weight has had much to do with the upheavals of the earth's crust into wrinkles and mountain ranges, and have made slight reference to the probability that the under side of the earth's crust, at the edge of the ocean or foot of the mountains, would by depression into the molten matter there be made thinner and weaker by fusion on the under side. I now direct attention to another, which I believe to be the prime and main factor in the making of mountains after the first elevations of the earth's crust in the early history of the earth caused by the cooling thereof, and which seems to have entirely escaped the consideration of geologists. It rests upon the following facts which have come under my observation:

First. Descending eastward from the summit of the Rocky Mountains there is a large watershed.

Second. It is conceded that but a very small portion of the water of the summit portion of this surface ever reaches the foot of the mountains on the surface; that only a small portion of that which flows into the upper part of the Platte River from its source at the summit to the foothills comes down to the plains; that instead it penetrates the earth and flows down under the

hard strata of the earth's crust, showing that there is a subterraneous passage for the water, and thus it is we have the artesian well flow of water from the subterraneous deposits of water on the eastern slope down to and on the sea level.

23. To what depth this water penetrates, and to what temperature of heat it reaches in this way is not known, but it is evident that if it penetrates to a sufficient depth to come in contact with the heat underlying it, then steam would be produced and thereby a force in proportion to the quantity of water and heat thus brought in contact. Now this process of penetration, subterraneous passage and storage of water, far into the earth's crust, and underneath the hard strata thereof, which occur on the inland side of the mountains, likewise occur on the ocean side thereof, so that far underneath the ocean bottom, right over where the fusing occurs, which has been described, there is a great body of water thus deposited, has been, and will be for time, incalculable in extent.

24. These deposits of water, if deep enough in the earth's crust, would be in contact with the heat, and produce steam, and thereby an uplifting force. That these deposits are of sufficient depth to come in contact with such heat seems apparent in the light of known facts.

25. Let the geologist go to the mines of Virginia City, in the State of Nevada, and note the rate of increase of heat as he descends into the earth's crust. There he will learn that it is hot enough to convert water into steam before a sea

level is reached. Then let him go directly west, out into the Pacific Ocean, say one hundred miles or so, and there sink an artesian well. Can it be doubted that he would strike beneath the hard strata of the earth's crust a vein or deposit of water that would produce an artesian flow to the surface if the ocean's water were not there to prevent the experiment? And can it be doubted that corresponding to the wrinkle of the earth's crust represented by the mountain range bordering the ocean, there was at the time produced a similar and corresponding wrinkle out at sea on the under side of the earth's crust, and that that wrinkle by depression sank into the molten heat, there producing results among which were the following:

First—A forcing molten matter up against the under side of the mountain elevation. Second—A fusing to some extent of the under side of that portion of the earth's crust, which is depressed into the molten heat, and the earth's crust thereby made thinner and weaker there than at other places. Hence, it follows that the heat and molten matter thereby approach nearer to the water in the crevasses, caverns, veins and seams in the earth's crust, and thus it is that the water there is converted to steam and the force is produced which lifts up and makes earthquakes, breaks in the floor of the sea and mountains.

26. The ocean's weight, with its dashing waves of water, constitute the source of the side pressure, and the steam force is the source of the uplift; that both these forces operate gradually

for a long period of time is evident; and to my mind that they operate rapidly in the final climax is also evident.

As this portion of the earth's crust lying under the sea is lifted up by this force, the crevasses, or fissures, or seams where this water is confined, and where it is hottest, are widened and the heated water and steam are extended in all directions, but mainly in the direction running parallel with the shore of the sea.

27. Evidences of the side pressure from the ocean side and an uplift from beneath are found all through the geological record of the mountain ranges on the west side of the North American continent; so also is the evidence of the contact of heat and water found in these mountain formations.

These facts, I think, give us a light by which we may retrace and quite accurately read the record of events in and upon the earth.

28. This contact of water and heat produces a steam force which lifts the earth's crust above it—gradually for a period of time until the force accumulates, and the lift-up has progressed until the force is sufficient to burst the bounds, when rapid eruption and catastrophe follow, and in the rapid and catastrophic finish of the work of this accumulated force the mountain ranges were produced, elevating ocean bottom to great heights above the ocean level; and it is thus that that portion of the earth's crust and the ocean water with its salt, and other ingredients, went through a

grand smelting process, producing the various mineral veins and deposits found in the mountains. When it is borne in mind that the earth's crust is merely a cracked and shattered partition between the great body and weight of ocean water pressing and surging against it on one side, and the intense heat of the active chemicals roasting the other side, the occurrences of vents or cracks in this partition, and a contact of these active elements there, will clearly appear as a matter of course, and in harmony with the laws controlling the elements engaged.

29. I believe in the theory that the materials of the earth are denser and weightier at the center, and become less dense and heavy proceeding from the center outward until the very top of the atmosphere is reached.

30. The importance of the great carrying business of heat and cold to and from the equator and the poles by the ocean currents, I think have *not* been fully appreciated, and the effects thereof have *not* been fully understood in all their bearings, as would be seen if these currents were to cease. Were it not for the ice at the poles, we would be without the conditions to exchange cold for heat, and this commerce would cease.

31. For a moment view the earth as it was during the last glacial period, with the ice at an incalculable depth at each pole and extending toward the equator. These ocean currents then did not exist as now, if at all. Then the sun's heat was held at home, at the equator, with different

or no interchanging currents of heat and cold, for all the ocean and air currents were broken by the catastrophe which preceded the glacial, and so remained broken until new and entirely different ones were formed under the new order.

32. It is evident, I think, that there was then at the equator and torrid and temperate zones a condition of heat and moisture, also of electric and magnetic currents entirely different from what we have now.

To my mind it appears evident that under this condition of things, by the simple operation of eternal laws, of whose existence and nature we catch some glimpses, there were then such contacts of the different elements of the matter, of the sun, and of the earth, that the life upon the earth was thereby produced by the contact of the sun's rays with the earth's vapor in such eruption; and that all life upon the earth thus started again, and in that infinite variety which is characteristic of the expression of the laws of the universe, everywhere that they are observable by the mind of man.

33. It is now conceded in the scientific circles that electricity and light are identical. Does it not follow that the oil found in the earth, together with the coal and gas there, the grease in the pine and fir, the fat in the ox and hog, are simply forms of stored electricity all having their sources in the sun's heat and its contacts, and does it not follow that electricity and heat are identical, that the internal portions of the earth are alike storages of

electricity, gathered from the domain of space, and thus stored in the formation of the earth?

34. These are my reasons for thinking that matter is eternal: First—Time and space and laws are eternal, that is, ever were and ever will be (by the word matter, all things, electricity, *intelligence*, magnetism, etc., are comprehended). Second—All matter is and ever was obedient to law. Third—Something comes not from nothing. Fourth—If the anomalous condition of law without matter to operate on—that is to say, laws of matter without matter—if such condition of nothingness had ever existed it never would have changed, but always would have so remained; therefore, the existence of matter under the dominion of eternal law is proof positive that they are co-equal. Matter and the laws thereof ever were and ever will be.

35. Man, like all things else of life on earth, originally came of contact of earth's elements with those of the sun. The dense atmosphere which covered the earth during the convulsions of mountain-making necessarily retained its heat near to and at the equator, and withstood the cold which prevailed over the remainder of the earth's surface soon after the cooling commenced. The electric and magnetic currents of the earth were affected by the catastrophe, so that our mother earth thus moistened, heated and conditioned in her magnetic and electric flush by contact with the sun's power, through the long streamers of light and life therefrom, produced the forms of

life now on the earth. In that expression of the law, in that production of life, an infinite variety of creatures were shown, and thus did life again start after the catastrophes. These creatures, by contact among themselves, in obedience to the laws of their being, reproduce and propagate themselves. And this is typified in the stagnant water on the surface of the earth exposed to the sun's force. When a drop of it is brought under the magnifying glass, we see the multitudes of living creatures who live there. There is no more mystery in the one creation than in the other; they are alike and obedient to the same laws. The difference in the creatures of the two creations is measured by the difference in the conditions of the elements and contacts producing the two.

36. It will be remembered that artesian water, such as we have in Colorado, is entirely clear of life when it flows to the surface. Yet this water, like ocean water, contains the elements and properties by which, when brought into contact with the sun's matter, living creatures are produced.

This is not spontaneous production in any sense, nor is it sexual reproduction, but it is simply an exemplification of the fact that life is an attribute of such matter and such contact.

It should be remembered that there are very intimate relations between the earth and the sun; that the long streamers of the sun extend many millions of miles into space and that they come into contact with the earth; that these streamers

are composed of matter the physical ingredients of which we are not entirely ignorant.

37. By observation of the spots on the sun we have discovered very intimate or sympathetic relations between the earth and the sun touching the magnetic and electric matter of the earth; so much so that we know that a disturbance of telegraph wires occurs in sympathy with the action of these sun spots, likewise of the needle of the compass, so that it is already well known and already seen that the matter of the two bodies are in sympathy with each other. It should be remembered, too, that without the atmosphere around the earth we could not live a moment; that this atmosphere is prepared and conditioned by the sun's contact with the earth.

That the sun contains some, if not all the elements, that are found in man's physical composition.

38. It is said that the physical ingredients which go to make up the average man of the weight of one hundred fifty-four pounds are as follows: Ninety-six pounds of water, three pounds of white of egg, a little less than ten pounds of pure glue, thirty-four and one-half pounds of fat, eight and one-fourth pounds of phosphate of lime, one pound of carbonate of lime, three ounces of sugar and starch, seven ounces of chloride of calcium, six ounces of phosphate of magnesia, and a little ordinary table salt.

Divided up into his primary or chemical elements, the same man is found to contain ninety-

seven pounds of oxygen—enough to take up under ordinary atmospheric pressure the space of a room ten feet long, ten feet wide and ten feet high. His body also holds fifteen pounds of hydrogen, which, under the same conditions, would occupy somewhat more than two such rooms as that described. To these must be added three pounds and thirteen ounces of nitrogen. The carbon in the corpus of the individual referred to is represented by a foot cube of coal. The other elements going to make up the man are four ounces of chlorine, eight ounces of phosphorus, three and one-half ounces of brimstone, two and one-half ounces of sodium, two and one-half ounces of potassium, one-tenth of an ounce of iron, two ounces of magnesium, and three pounds and thirteen ounces of calcium.

39. The earth is truly the mother of all things, she nourishes upon her bosom, and with the aid of the sun she first gave birth to them all—all of the varied families of men, animals, fowls, fishes, trees and herbs; and the variety was as great if not greater in the first instance in each creation in the respective periods as ever afterward in the same period.

The same combinations of heat and moisture in contact with the sun which produce life illustrate and show in a typical way, I think, the source of life on this earth to be as stated.

All things of the universe, so far as we can trace them, seem typical of one another.

40. Electricity is omnipresent and doubtless

is, so to speak, the *nerve force* of the universe, and may be the basis of all force and all life.

The source or origin of life in the stagnant water referred to is typical of the source and origin of the life of large creatures. The life we see in the water exposed to the sun's heat is in the same degree and fully typical of the life which sprang from the condition of things produced by the upheavals in mountain-making, as I have conceived the process thereof, and in accordance with the same laws.

41. The production of a mushroom, a fever germ in water exposed to the sun, and decayed vegetation, a worm in the bowels of a babe, a microbe in the body of a diseased creature, is no more nor less mysterious to or hidden from our understanding than is the production of man in the first instance.

42. The earth itself, doubtless, in a way, is a part of the sun's organic system. The contact and production by sexual operation is distinct and subsidiary to this order of production. Motion, contact and life are characteristics of the laws of matter.

Contact and life are everywhere, because matter force and laws are everywhere.

Life and intelligence are attributes thereof; that is to say, life is an attribute thereof, and intelligence is an attribute of life.

43. Wherever the sun's heat and moisture on the earth are the greatest, there the greatest product of life is shown. In portions of Brazil these con-

ditions are more favorable than anywhere else, and there even now, when man has attained to his present position of invention and power, he is unable to overcome the power of animal and insect life there, and put that land under his dominion.

(See History of Civilization in England, by Buckle, Vol. I, pages 74 and 75.) I quote therefrom:

“Brazil, which is nearly as large as the whole of Europe, is covered with a vegetation of incredible profusion. Indeed, so rank and luxuriant is the growth that nature seems to riot in the very wantonness of power. A great part of this immense country is filled with dense and tangled forests, whose noble trees, blossoming in unrivaled beauty and exquisite with a thousand hues, throw out their produce in endless prodigality. On their summits are perched birds of gorgeous plumage, which nestle in their dark and lofty recesses. Below, the base and trunks are crowded with brushwood, creeping plants, innumerable parasites, all teeming with life. There are myriads of insects of every variety, reptiles of singular and strange form, serpents and lizards spotted with deadly beauty; all of which find means of existence in this vast workshop and repository of nature. And that nothing may be wanting in this land of marvels the forests are skirted by enormous meadows which, reeking with *heat and moisture*, supply nourishment to countless herds of wild cattle that browse and fatten on their herbage;

while the adjoining plains, rich in another form of life, are the chosen abode of the supplest and most ferocious animals, which prey on each other, but which it might almost seem no human power can hope to extirpate.

“Such is the flow and abundance of life by which Brazil is marked above all other countries of the earth. But amid this pomp and splendor of nature, no place is left for man. He is reduced to insignificance by the majesty with which he is surrounded.”

(This, too, is the land of the electric eel. See *Encyclopedia Brit.*, Title, “Eel.”)

44. I believe in the Cuvier theory of geology, to-wit: Catastrophic, with new creations after each catastrophe. While neither he nor any other to my knowledge ever made any attempt to state the cause of these catastrophes, I think it is manifest that they occurred in the mountain-making of the earth, and that the process thereof was rapid and in the manner stated. The conditions of the elements of the earth, her heat and moisture, in contact with the sun's heat, during and following the grand convulsions of the earth in her mountain-making, were as much grander than the conditions and elements producing the living creatures in the stagnant water, as man and the animals are grander than those creatures.

45. The creation or production of man and the animals, and all things else on earth, was expressed by this law the same as the type I have referred to, and not by producing a single kind or class, but by producing a variety of men and ani-

mals, whales and fishes, eagles and birds, oaks and weeds, etc., in the first instance.

46. This view is not in accord with the Darwinian theory of the presence and coming of the present order of life on the earth. The French were the leaders in scientific thought one hundred years ago, and so continued. Cuvier in his day stood at the head of them all. The French never adopted the Darwinian theory, but emphatically rejected it; and this is significant, in view of the fact that much of the lore our scientists are building upon, is from this same Cuvier, and the French thinkers of his day. Nothing of Cuvier's theories are rejected, except his catastrophic theory with its new creations, and these are rejected by Haeckel and others of the Darwinian school for the reason that they conflict with the Darwinian theory.

47. Law is eternal; it will produce the same today that it did yesterday if the conditions of the matter subject thereto are the same—that is to say, matter under the dominion of law will show results as stated, and if the conditions are similar the products will likewise be similar. By the law of eternal force there never is any halt, hence the conditions can never be the same. It is apparent to the mind of man that persistent force and continuous change are of the characteristics of the laws of matter. Haeckel's two volumes entitled "The History of Creation" constitute probably the strongest and most exhaustive argument in favor of the Darwinian theory of creation and

“descent of the species.” However, he recognizes the fact that Cuvier and the French mind, including the elder Agassiz, are opposed to the same.

48. The catastrophic theory with its new creations seems in accord with all things observable by the mind of man.

The single instance of the elephants in the ice of Siberia seems to me to be of more weight than all that is relied upon in support of the Darwinian theory. Those elephants are a product of a period since which a catastrophe has occurred, and one, too, which has changed the clime of Siberia from a clime where the elephant lived, to eternal ice. That the catastrophe was rapid in its progress from warm to wet and from wet to cold, is evidenced in the perfect preservation of the elephant as he was in life; had there been intervening time the flesh upon his bones would not have been there when he was lodged in the freezing water, which hitherto held him intact, so that the dogs gnaw his flesh when he is taken from his tomb of ice, where he has been for thousands of years. Petrification could not occur while the sun's force was shut off from the earth by the dense vapor described.

This one instance and the facts shown thereby are of much greater weight than the main points of the Darwinian theory, viz.: Embryology and the similarity of the points found in man and the animals.

49. All things produced by the same laws must be similar; the variety occurs according to

the peculiar conditions and circumstances attending at the time and place of their inception.

50. If the catastrophic theory of geology is correct, and the cause of the catastrophies are as I have described, the theory of new contacts and new products thereafter is established and the Darwinian theory is thereby overthrown.

The fact which seems to constitute the strongest support to the Darwinian theory is the fact that man, in the early stages of his career, in his mother's womb, appears to have a tail; hence it is argued that he is descended from tailed ancestors. According to my observation and conception of this fact, the apparent tail of the embryo man is not a tail at all in the sense claimed, but is simply a storage of material which, in due course, is worked into the full formation of the creature. That this material must be held in some place and form is evident; that it is held in the shape shown, and used for the purpose stated, is proof of nothing but the simple facts, that it is so held and used.

But I take it that Mr. Darwin himself was not firm in the faith of the theory that bears his name, as is shown by his own candid treatment of the subject in his work entitled "The Origin of Species," Chapter VI., Chapter VII. and Chapter X.

51. Except the changes brought about in the domesticating of some animals and fowls, and the extinguishment of some varieties, there has been no change in the forms, order and variety of the

creatures of life on the earth since the last glacial period. So conceded by Mr. Darwin.

It is likewise evident that the creatures of life, prior to the last glacial, were different from the creatures of life since then.

52. If it can be shown that the glacial is a hiatus that marks the line between the dead of a past period and the living of the present period, then the life of the present period does not descend from the life on the other side of the glacial, and the Darwinian theory of "descent" falls to the ground.

While it may be doubted that the glacials occurred in the manner as herein stated, it cannot be doubted that at least one glacial period actually occurred. Is not that fact sufficient of itself to prove the proposition that all life must have perished in the catastrophe that brought it about? And independent, too, of the monuments of the dead of the preceding period that commemorate and verify such event. To doubt this proposition is to admit want of reflection upon it.

53. It is evident that the heat necessary to send up in vapor enough water with which to make the rain, the snow and ice for the glacial, was greater than that bestowed by the sun; that this heat came from within the earth, otherwise it could not have come in contact with the water of the earth, so as to produce the evaporation thereof, which actually preceded and produced the glacial. The heat from the sun, in order to raise the amount of vapor or steam from the oceans necessary to the glacial, would be a heat of suffi-

cient force to kill all life on the earth and to boil the oceans of the earth.

54. The change in the condition of the elements to a dense cloud of vapor, miles in depth, covering the entire earth, for years probably, was a necessary condition for such result, and would be destructive to life. The sun's force, thus shut off from the creatures of life of the earth for any considerable length of time, would put an end to the growth of herbage and food, and would be destructive of all life.

But I deem it sufficient to refer, on this point, to the mountains themselves—say the ranges on the western side of the American continents, together with the facts shown by the geological records thereof, among which are:

First—The tops of these mountains were once ocean bottom.

Second—The upheaval force that produced them was rapid in the finish of their formation.

Third—The waves of the ocean in this convulsion swept over all the earth again and again and miles in height.

55. It is evident, beyond doubt, that in such upheavals, upon the edge of the ocean, the contact of the water and heat necessary to the result shown was upon a grand scale, sufficient to put our mother earth in a state approaching dissolution, and a return to that gaseous or vapor state in which she existed before her present formation; that she remained in this condition for a considerable time is evident; that the atmosphere

around her was thereby charged with a great quantity of heat and fumes from her internal forces; that one-third, one-half, or more, of all the water of all the oceans was sent up in vapor; that the atmosphere carrying this amount of water was deep and dense, leaving the earth in pitch darkness; that in this condition of things, for the time necessary to work the changes that followed, with the sun's force so utterly cut off from the surface of the earth and ocean, no creature of the air, the ocean or the earth, at all, could retain life in such condition of things, so all then perished.

56. The order of life on the earth, in the carboniferous and other periods, when there were less mountains and but little if any ice and cold storage upon the earth, and when the life-giving heat of the sun spread itself unchecked more nearly all over the earth, there was a grander and more prolific and powerful product of living animal creatures on the earth than now. The vitalizing heat having been checked and lessened by the great quantity of ice retained on the earth and the elevation of portions of the earth's surface in this, the last period, the order of animal life in this subsequent period is less powerful and destructive, so that man in this period has come and survived, and is the most powerful of all his fellows.

57. The Darwinian theory of evolvement is not in accord with these facts. Those of this school concede, too, that in those previous periods man was absent, had not yet "evolved," yet they

are compelled to admit that the animals were of a much larger and more powerful and destructive character then than now.

58. Can the history of the gravel stones of the earth's crust, the history of the flesh and bones that made the phosphate beds of South Carolina, Florida and Georgia, the history of the hairy elephants, in the ice of Siberia, or the cause of the continuous quakes of the earth's crust be told outside of the lines of the catastrophic theory, as stated?

59. Of the things of a temporary identity, insects, vegetation, animals, etc., we may learn much, also of the laws to which they are subject; but of things eternal, time and space, matter, force and the laws thereof, we cannot know them, much less encompass them, and this, I think, is the true position of the true agnostic. There is no such thing as a first cause in the forms of matter. Such an assumption presupposes a beginning and hence an ending. In the endless variety of the forms and types of living things on the earth, the conception of progress, unfoldment, evolution, has rooted itself in the minds of many thinkers. I think it is a misconception. So also is the assumption that there is an unfoldment of things evolved from nothing to something, or from a beginning to a finish, for there can be no beginning or ending of infinite things; they have no beginning nor ending, neither can there be any correct conception of what is progress or the contrary thereof in things eternal. These terms, as

well as the Darwinian Conception, to which they belong, have nothing to stand on; they are anomalous, have no place in truth, and they have little, if any, application to things not eternal—animals and the like; they have but a momentary duration and pass out of their frail and momentary form of life here into the endless sea of matter again, by the death which soon overtakes that being, that form; and whatever it gains in the moment of life it holds is lost to its followers in the death that follows that life. In the domain in which the intelligence of that life is exercised there are such contacts with, and observations of the eternal laws; that much is learned of those operations; not that the mind of man can comprehend those laws, but that the mind of man can become familiar with many of the characteristics and operations thereof, and herein is the field where the intelligence of man, so long as man exists, will ever struggle to learn more of the workings of the laws of the universe. Life on this earth in the various forms we find it, transmits itself according to the law of continuous change in the conditions of matter. Sometimes this transmission of life seems to be in what we call a progressive channel, at other times, retrogressive; but these deviations are always within limits—within such limits that no old species loses itself in a new one.

60. Man, like all things we can see, is the creature and the victim of laws; he is the highest order of all creatures of which we have knowledge; hence the exalted conceptions we have of

his possibilities and his rank. Yet the flashes of his intellect are like the dew drops in the morning sun, the rainbow in its dazzling splendor. Can it be that these, and all things—man, grass and the animals—come and go alike; the incidents or playthings of the eternal laws of the universe? I think not, because man is distinguished by an intellect peculiar to him, and above all others on earth.

61. Time is eternal; that is, ever was and ever will be. The human being stands in the over-awing presence of this truth like a bubble in the boundless ocean.

Space is eternal; that is, without beginning or ending. While the human mind is able to state this truth, it cannot comprehend its full significance.

Matter, including the elements from which all things come, electricity, and no one knows what all else, is likewise eternal and has always been, subject to laws. While there can be no doubt of this, man cannot comprehend the full force thereof.

These elements are co-existent with the laws of the universe to which they are and ever have been subject, and all things that are or will be, accord therewith and flow therefrom.

62. To my mind it does follow that we are, and in the beginning of us, were inferior to the power under which the contact of matter occurred by which we were conceived and produced, and that by that superior power we were equipped

with organs and intelligence with which to transmit ourselves, and without co-equal intelligence to comprehend the same.

63. Whereabouts in the barren range of the Darwinian Conception is the brain or the womb to design or to give to the living creatures their respective sexual organs and the sympathetic force that goes therewith?

64. Is not the sun the immediate source from whence come all that we call life—organs, instinct and intelligence? And is not the sun the seat of the hidden designer—the hidden force or hidden law by which the organs, and the male and the female sexes were given to all creatures here in the first instance of their production in the contacts of the sun's elements with those of the earth? If not so, then the sun contains the elements and forces by which the creatures of life on the earth were produced, and by a dominating force intellectual.

The Essenes had a remarkable conception of the sun. (See *Encyclopedia Britannica*, Title *Essenes*.)

It is believed that Jesus Christ was for some time with the Essene sect.

65. In my view the following appear as acceptable facts:

First—The intelligence of man is not and cannot be fully commensurate with nor comprehensive of things eternal, time, space, matter, and the laws thereof.

Second—There is and must be an intelligence

that is commensurate therewith and comprehensive thereof.

Third—The intellect of man is a flash or spark, so to speak, from this source, and kindred thereto.

Fourth—That there are two distinct processes by which living creatures are produced on the earth.

One by the sexual organ process, which requires organic creatures to carry it on; the creature thereby produced being a mere continuation or transmission of those engaged in the contact, and necessarily remaining like unto the creatures so producing them.

This process is secondary to the process preceding it, which preceding process is one by which creatures with organs and intelligence are produced. This order or process is one in which the elements of the sun are directly engaged in contact with other elements upon the earth, with a Designer or Creator, it seems, and whose scheme seems but vaguely understood by His creatures. These creatures seem to be infinite in variety.

66. The Darwinian theory of the descent of species in no way comprehends the distinction, but is founded upon the sexual organ process, and that, too, without a capacity to produce a single organ or a single flash of instinct or intellect for any creature. So the conception simply turns upon itself and ends where it begins without a truth to live on, or a leg to stand on.

67. From the foregoing considerations I

claim: First—That catastrophes caused by contacts of the boiling chemical heat lying in and under the earth's crust with the ocean's waters upon the earth's crust must be accepted as the basic and underlying principle and truth of the science of geology, and without which there can be no comprehensive conception of the known facts thereof. Second—That the Darwinian theory of the descent of man is contrary to and entirely out of accord with all the known facts found in the geological record, and all the known characteristics of the laws of matter, life and intelligence, and that not one essential proposition or fact of the conception has ever been proved.

68. In view of the vast amount of evidence on the subject, among which are the varied and polished gravel stones of the earth, there is affording convincing proof of the fact of cataclysms catastrophes, viz.: the catastrophic theory of geology.

The present period is the first to retain the ice deposits at the poles, and this shows and accounts for the fact that immediately previous to the present geological period, the climes were so different that what is now frigid was then warm and tropical; that such climes would return to those regions and zones again if the sun were able to remove the cold storages of ice now permanently fixed at the poles.

69. The last glacial is evidence of the fact of great heat in contact with water, essential to the production of the vapor to produce the rain and

snow for such glacier, sufficient to have sent up in vapor at least one-quarter of the water of all the oceans of the earth.

70. Altogether, the evidence is such as to be conclusive, I think, that the catastrophes were—the last one certainly was—such that all organic life on earth succumbed thereto, and that the present order of life on earth is of subsequent production, incident to the catastrophe, and not by descent from that order of life preceding the catastrophe.

71. The order of life on earth being of the expression flowing from the contact of certain elements of sun and earth, exemplifies the law of attraction, contact and expression, dominating certain elements of matter.

Such is the language of the matter of the universe, and such is the form and manner of expression in the regions of space; it being the same law by which thought and sex expressions occur in the organism of man.

Attraction, contact, expression, such is the manner of all expressions, all creations, whether of those which seem to us mere reproductions or those which seem to us original productions.

Is it not a law of the matter of the universe affecting all matter and participating in its eternal motion?

72. We may pick up a handful of gravel stones anywhere I have been on the earth and find therein a great variety. We will find therein rock from a number of the several rock strata of the

earth. We find them altogether and well polished. A moment's reflection upon this fact shows the truth of the catastrophes of Cuvier's conception.

These gravel stones originally came from the cracking, breaking and upheavals of the earth's crust composed of these several rock strata, and they were rough and unpolished when so produced.

Nothing short of the catastrophes referred to could have so broken the earth's crust, the rock strata thereof, produced the spalls and chips and boulders thereof, mixed and polished them and put them where we now find them.

73. By the grades of certain streets in the City of Tacoma, and the washing down of the sides of the bluffs to fill the tide flats in the harbor of Tacoma, the geological formation in many places is disclosed, so that it is easy to distinguish there between the work of the ocean waves during the first phases of the last catastrophe and the work of the glacier, in the last phase thereof. A very plain and readable page of the geological record is by these works exposed to view. We had in Colorado the fossilized remains of a sea monster fashioned after the form of a lizard, or crocodile. It was twenty-four feet in length and was discovered there just a short distance on the east side of the summit of the Rocky Mountains near Georgetown, about twenty-five years since, by Professor Lakes, the geologist at the school of mines at Golden.

74. It will be remembered in this connection,

that in the convulsed state of the earth and the ocean water during the first stages of the cataclysm or catastrophe, that the waves of the ocean were miles in height, and swept all the dry land of the earth over and over again and again.

75. On the subject of mountain-making I here now present the views of the learned and distinguished Agassiz on that subject, found in his work, entitled "Geological Sketches," Vol. I., pp. 97-8-9, and 117-119:

"Our present notions of the past periods of the world's history probably bear about the same relation to the truth that these ancient geographical maps bear to the modern ones. But this should not discourage us, for, after all, those maps were in the main true as far as they went; and as the ancient geographers were laying the foundation for all our modern knowledge of the present conformation of the globe, so are the geologists of the nineteenth century preparing the ground for future investigators, whose work will be as far in advance of theirs as are the delineations of Carl Ritter, the great master of physical geography in our age, in advance of the map drawn by the old Alexandrian geographer. We shall have our geological explorers and discoverers in the land and seas of past times, as we have had in those of the present — our Columbuses, our Captain Cooks, our Livingstones in geology, as we have had in geography. There are undiscovered continents and rivers and inland seas in the past world to exercise the ingenuity, courage and perseverance of

men, after they shall have solved all the problems, sounded all the depths, and scaled all the heights, of the present surface of the earth.

“What has been done thus far is chiefly to classify the inequalities of the earth’s surface, and to detect the different causes which have produced them. Foldings of the earth’s crust, low hills, extensive plains, mountain chains and narrow valleys, broad table lands and wide valleys, chimneys or volcanoes, river beds, lake basins, inland seas — such are some of the phenomena which, disconnected as they seem at first glance, have nevertheless been brought under certain principles and explained according to definite physical laws.

“Formerly men looked upon the earth as a unit in time, as the result of one creative act, with all its outlines established from the beginning. It has been the work of modern science to show that its inequalities are not contemporaneous or simultaneous, but successive, including a law of growth — that heat and cold, and the consequent expansion and contraction of its crust, have produced wrinkles and folds upon the surface, while constant oscillations, changes of level which are even now going on, have modified its conformation, and molded its general outline through successive ages.

“In thinking of the formation of the globe, we must at once free ourselves from the erroneous impression that the crust of the earth is a solid steadfast foundation. *So far from being immovable, it has been constantly heaving and falling; and if we*

are not impressed by its oscillations, it is because they are not so regular, so evident to our senses as the rise and fall of the sea. The disturbances of the ocean, and the periodical advance and retreat of its tides, are known to our daily experience; we have seen it tossed into great billows by storms, or placid as a lake when undisturbed. But the crust of the earth also has had its storms, to which the tempests of the sea are as nothing—which have thrown up mountain waves twenty thousand feet high, and then fixed them where they stand, perpetual memorials of the convulsions that upheaved them. Conceive an ocean wave that should roll up for twenty thousand feet, and be petrified at its greatest height: the mountains are but gigantic waves raised on the surface of the land by the geological tempests of past times. Besides these sudden storms of the earth's surface, there have been its gradual upheavals and depressions, going on now as steadily as ever, and which may be compared to the regular action of the tides. These, also, have had their share in determining the outlines of the continents, the height of the lands and the depth of the seas.

* * * * *

“But Von Buch was indefatigable. For years he lived the life of an itinerant geologist. With a shirt and a pair of stockings in his pocket, and a geological hammer in his hand, he traveled all over Europe on foot. The results of his foot journey to Scandinavia were among his most important contributions to geology. He went also to the Canary islands; and it is in his ex-

tensive work on the geological formation of these islands that he showed conclusively not only the plutonic character of all unstratified rocks, but also that to their action upon the stratified deposits the inequalities of the earth's surface are chiefly due. He first demonstrated that the melted masses within the earth had upheaved the materials deposited in layers upon its surface, and had thus formed the mountains.

* * *

"Next to Von Buch, no man has done more for modern geology than Elie DeBeaumont, the great French geologist. Perhaps the most important of his generalizations is that by which he has given us the clue to the limitation of the different epochs in past times by connecting them with the great revolutions in the world's history. He has shown us that the great changes in the aspect of the globe, as well as in its successive sets of animals, coincide with the mountain upheavals."

76. It is a well-known and admitted fact that living things do frequently come down from the clouds to the earth in falling rain; worms, toads, fish, etc., etc. (I believe it will some day be demonstrated, too, that from this source come the plagues known as army worms, grasshoppers, locusts, etc.)

It has been assumed that these things of life so falling upon the earth had been drawn up from the earth and simply returned to the earth as they were when drawn up with the moisture of which the rain is composed. This assumption, however, is a false one; yet, baldly false as it is, no scientist

that I know of has ever told us so. I now declare that these creatures do not go up from the earth in the vapor which rises and forms the rain; such a conception is entirely erroneous and false. The vapor rising from the oceans and the earth's moisture is not and cannot be so freighted.

These living things, on the contrary, are brought into being in this vapor *after* it rises, and by the contact of the sun's rays with this vapor while in the cloud form; and such forms of life are accordingly generated and produced there. The vapor composing the falling rain bearing living things evidently had been held and carried for a considerable time in the vapor state by a warm body of air and in contact with the sun's rays. By this truth a flood of light is turned upon the conception herein set forth:

77. Now, for a moment, go to the drop of stagnant water on the earth as it appears when brought under the magnifying glass and behold the living creatures there. In this we see a creation in miniature.

Then, go forward to the vaporized water from the earth to the cloud, after it has been long borne high up in a warm body of atmosphere exposed to the sun's rays, and behold the varied, curious and much larger creatures there coming into existence. In this we see a creation in a larger miniature.

78. After these two object lessons, the mind is somewhat prepared for the contemplation of the earth and her vaporized elements as she was when a third, or a half, of all the water of the

oceans had been sent up in vapor by the contact of the earth's internal heat with the water of the oceans in the upheaval catastrophes by which the mountains were made, and the glacials produced as set forth herein.

It will be seen that the womb-like elements then enveloping our mother earth were charged with her maternal seed, and were thus in long contact with the vivifying rays of the sun; thus, then and there, did conception and new life occur, not unlike the two miniature processes referred to.

79. The periods of gestation of the creatures of this ample womb continued, till an approximate return to the conditions ordinary on the earth, when the air, the land and the oceans were alive with new creatures thus brought into being with their organs, sexes and instincts, amongst which was man, with that *additional* and *distinguished* quality, *intellect*: so were they equipped and conditioned in this, their beginning. And from this beginning these creatures began their career by propagation; by the simple process of bringing into contact the elements of the male creature with those of the female.

80. The elements encircling the earth contain many ingredients from the sea of matter, which are largely gathered, formed, conditioned, controlled and located by the sun in his control of and contact with the earth, and the other elements of his system.

The presence of living things on the earth was

after the presence of these elements on and as a part of the earth.

I think that these elements and the living creatures thereof are in a manner kindred—the creatures being in part, so to speak, indigenous to these elements. For such elements are suitable to these living creatures, which are not only dependent on these elements for every moment of the life they bear, or transmit, but were in the beginning of such form of such life so produced by and from the elements under the contact influence of the sun.

81. In the meat part of a live fish, which I once caught and cut up for bait, I found a live worm an inch long and as slender as the finest silk thread; and I have seen from the bowels and stomachs of babies and children living worms of different varieties.

Is the presence of such living creatures in such elements in accord with the Darwinian conception of the “descent” of species? And, if so, from what ancestors do they descend?

82. In the population of universal space there is a sympathetic magnetic pulsation throughout the organism of each and every solar system. This has been established as to our own solar system by the observations of the sun’s spots, by which it has been discovered that there is a concurrent and sympathetic action thereof with the needle of the compass and the electric wires upon the earth, not unlike the pulsations of the human

body and its effect upon the several organs thereof.

83. In each and all of the solar systems the intellect thereof must be in homogeneous accord therewith. This is so, for nothing is in vain. Beauty must have an eye to see it. Grandeur must have a soul to feel it. *Truth and mathematics, an intellect to comprehend them*, else they would not be. The existence of the one without the other is not tolerable in the nature of things.

84. Numbers are illimitable. Likewise are things and space infinite or eternal; yet, as mathematics is comprehensive of all numbers, likewise is intelligence comprehensive of all things. It follows, that intellect is of that which is eternal, infinite, Divine.

85. Man is a being on earth, made of elements from two different sources; base and refined; earth and sun; finite and infinite.

This is shown by the irregular and never-ending conflict in the play of the passions; in them, he loves and hates, wounds and heals, weeps and smiles—the opposing forces never rest: because there is in this creature of earth a flash of intellect, a spark from the fount of things eternal—a something from another source and kind, that cannot overcome nor absorb, nor be overcome nor absorbed, while in the blend of earth.

86. It is by these mysterious qualities that the creature, man, is charged with that energy of thought and action so far-reaching in scope. By being so charged with such force, it results that

he has done much in the way of discovery, invention, and the utilization of the force of matter put into his hands and by his recent inventions he is now able to preserve and transmit the fruits of his work in these respects, and he has done all this without the acquisition or loss of a limb or an organ. And now, aided as he is by these acquisitions of knowledge, he is equipped with the capacity to do more and more, and that, too, without the acquisition or loss of a limb or an organ.

It follows, I think, that he is and in the beginning was a creature designed for results not yet attained.

87. It is apparent that man is a humble bearer of intellect, and of an intellect humble and remote, indeed, in comparison with the All Comprehensive. How little does the human intellect comprehend compared with the much it does not comprehend! But it is nevertheless manifest that our intellect is akin to that Divine Intellect which pervades, dominates and comprehends the universal all. This is evidenced by the fact, among others, that *the human intellect is comprehensive of mathematics, no other creature of earth being so distinguished.*

88. There is a group of things, each of which, in a way, is kindred to the other; and all of which, in a way, constitute one whole. These are and always were everywhere and without beginning or limitation. They are: Time, Space, Matter, including the forces and laws thereof; Truths, or principles mathematical; Life and Intellect,

which, flowing with matter, likewise are and always were without beginning or limitation.

89. For the better understanding of the words contact and expression, as used herein, I give the following illustrations:

The grain of corn is produced, or made to grow on the cob, by the *contact* of the blossom element from the tassel of the stalk falling upon the silk of the cob. Without this contact there would be no corn on the cob. The corn thus produced is the *expression* flowing from such contact. The salmon fish are produced by the laying of the spawn on the sand by the female fish, which remains without vitality until the male fish comes and spreads his element in contact therewith, and by such contact the young fish are produced, the expression from that contact.

This, however, is a mere continuation or perpetuation of that which had been created, and the same is true of the living creatures, in their sexual organ process by which they are continued or perpetuated, being repeated expressions simply.

90. Recurring to the creation of the forms of life now on the earth: By the lights which are given us, we see that the same law is present touching the contact feature; in the one instance, however, it is a mere continuation or repetition of an old form flowing from the contact.

91. Under conditions ordinary on the earth, we have those almost imperceptible creatures seen in the drop of stagnant water; yet, insignificant as they appear, even when magnified, we should

remember of them that their origin and creation required the contact and exercise of our sun and our earth. In the cloud contact we have more favorable conditions and more refined elements, hence a higher creation. Thus it is that a new form of life is expressed, created, essentially distinct and different from the process of continuing or perpetuating an existing form.

It will be observed that the forces necessary to a new form of creation are vastly different and superior to the thing created.

92. *The animalcule life on the earth, as shown when brought under a magnifying glass, the life produced in the vapor of the cloud, and the life produced in the vapor which enveloped the earth in her condition extraordinary, are all original expressions or creations, and flow from the contacts of the elements of the sun with the elements of the earth, under the forces dominating the same. The difference in the creations is measured by the difference in the conditions, and the elements engaged in the contacts.*

Thus it is that the earth has been repeopled through the same conditions extraordinary by which all her creatures were destroyed. New and extraordinary contacts of new and extraordinary elements were thereby occasioned, from which flowed the expressions or creations following.

93. Certain elements or qualities of matter are doubtless the conductors of intellect, much in the way that certain matter is the conductor of electricity. And it is so, not by miracle, but by

the eternal laws of matter and the forces intellectual and all which flow therewith and therefrom.

94. The words all comprehensive intellect, as used herein, signify the All-comprehensive in the exalted yet passionless state, and such, I think, is the true conception of Divinity. Intellect, in man, is infused with certain frailties, passions and qualities, having their source in his fleshy and organic nature.

95. I view the living things of earth as an expression from the contact of the forces within our solar system. Whether we are here on earth as a mere incidental expression of the going forces of our solar system, in its course among the multitudes in the realms of space, or are here by the design of the Designer, is the important question. The Darwinians think much in one groove, and in their thinking do not fully, if at all, recognize the fact that the matter of our solar system, in its quality and under the forces by which it is dominated and to which it is subject, contains life-giving elements, in its continued motion and energy, of which living creatures are produced.

96. Mr. Tyndall for years emphatically denied this truth, but later not only admitted, but advanced and proclaimed the same. (See column article in New York Tribune of date March 6th, 1894.) For the Darwinians to presume to lay a limit to the capacity of the forces of the sun and earth by which new forms of life are created, and assert that the same is sufficient for the creation

of some forms of life but insufficient for others, is against all reason.

97. *Amidst his insect and animal comrades we contemplate man. It appears from the evidence that he is a creature distinguished above all others on earth; that he is an organic intellectual being, and was such when originally expressed or created here; that he is an expression or creation of our solar system, together with the divine or intellectual forces comprehensive thereof and flowing therewith. That as such expression he is evidence of the intellect in the expression. All of which tell us no less than that our solar system is an organized system of matter, which is the possessor or associate or conductor of intellect; this creature, man, coming as he does, being proof of this and these.*

98. *By all the light of that which is known to us, it conclusively appears that man first appeared on earth subsequent to the last glacial; that in all his past on earth he has been the same distinct creature he now is, and without connection or confusion with any other creature here.*

99. By the geological record it appears that his beginning here follows the last glacial, a time when an extraordinary condition of things had occurred, still evidenced by the track of that glacial, the graves of the things peculiar to the time preceding, and the mountain ranges, with their record of the conflicts and contacts of heat and water.

100. It will be observed that I have herein

described many of the characteristics of the intellect with which man is endowed. It may have appeared to the reader that the same were irrelevant to the subject under discussion.

They are not only pertinent, I think, but the fact shown thereby, constitutes, in my opinion, proof against the Darwinian conception of the origin and descent of man.

If man and his intellect were entirely a result of evolvement from earth material—that is to say, of earth origin, earth protoplasm beginning or origin—then the frontier line of advancement therefrom would be clearly marked, without any over-reaching, such as we have, into the higher, the far beyond; and man and his intellect would then be tied to the earth, and would have no characteristics, except those resulting from the heredity and environment attending his supposed march from earth protoplasm. The exalted intellect with which he is endowed would necessarily be absent.

101. That his intellect is of an exalted source, above and beyond the earth and all material of this earth, is evidenced, I think, by the fact that there is no limit to its range. The Darwinian conception is inadequate to this exalted and unlimited characteristic of the human intellect; an attribute which could not have been acquired in the dreary march from protoplasm conceived by Darwin. There is nothing in that theory to explain the endowment of man with the intellect he has; an intellect unlike and far beyond every-

thing engaged in or employed by Darwin in his conception. It must be manifest that it comes not from any such obscure and barren realm, and if his intellect came not by that way, then neither did his physical body with its various organs. In short, that way, I think, has no existence except in the minds of those who still cling to the fallacies of that conception.

102. For the commencement of their Origin and Descent theory, the Darwinians start with a kind of matter they call protoplasm. In their conception the descent of species begins at this point. The species develop or originate later on; so it seems that the descent of species precedes the origin of species; that is to say, the creature creates itself in and by its own acts. By this unique conception Haeckel and others of this school assume that they have a system by which all species may be accounted for and maintained, without intellect, design or designer, except as mere sequences; and this, too, in full view of the fact that no organless thing ever acquired an organ, and no organic thing ever added an organ to the complement given it to begin with, and of the fact that the ant, the bee, and every other species of life on earth, including the animalcule, remain steadfast to the respective grooves in which they were cast in their original production.

103. The Origin of Species is, I think, a distinct thing from the Descent of Species. Sexual organs or sexual qualities, at least, are essential to commence and proceed with descent.

In the original production of species, as well as in the reproduction thereof by means of sexes or sex qualities, we have an expression from a contact of matter simply. Such expressions result from the contact of elements different in quality but similar or kindred in kind. They are expressions of nature, or of matter under natural laws. This sex quality is essential and is always present in the reproduction or perpetuation of species; whether it is in any sense present in the original production, is a question beyond our comprehension. It is now conceded that the matter of the universe is possessed of life-giving qualities.

104. The scientists have said much—not to their credit, I think, for accuracy—about what they term “spontaneous generation.” That something may not be produced from nothing, all concede; but that different forms of living creatures may be produced by the contact of matter of different quality is known to every observer. And whether the creature thus produced be the fever germ, the bacteria, the wriggling thing in the stagnant water, the worm or the toad that comes down in the rain, the grasshopper that comes down in the hot sunshine, or the larger creatures produced in the vapor of the oceans’ water during the great catastrophic cataclysms of the earth, it is an exhibition of simple ignorance to associate either or any of them with the conception of “spontaneous generation,” viz.: the production of something from nothing.

105. The matter of the universe teems with life-giving elements, and the occurring contacts of the different qualities thereof is by law, and is the source of expression, both in the field where living creatures or species are produced, and in the field where such creatures are reproduced or perpetuated, in obedience to the laws of their sexual qualities; the marked distinction between the two classes being, that in the case of original production the elements and forces engaged are vast, indeed, in comparison therewith; vast and profound, and comprehend all there is of our solar system of matter, intellect and Divinity; far beyond the penetration of the human intellect as now equipped and enlightened.

106. In the case of Descent or Reproduction, we find the species simply obedient to the profound law of the sexes, in their contact action resulting in the reproduction of themselves again and again. The law of sexes is eternal and, we may say, pervades the universe. We find it in the vegetable kingdom, in the electric and magnetic attraction of matter, and wherever the intellect of man can penetrate. The assumption that this sympathetic force and quality of the sexes is a creation of the species for themselves and by themselves is one of the barefaced fallacies of the Darwinian conception.

107. An original production is one begotten, not by creatures like unto itself, but of contact between forces vaster than itself. Of this class are the living things seen under the glass in the stag-

nant water; the living things which come down in the rain, and those greater living things which were produced in the vapor enveloping the earth during the catastrophic cataclysms of the past.

108. Advancing a step further in the consideration of the forces engaged in the original production of the animals and mankind now occupying the earth: I reiterate that I think it is conclusively shown by the record that the manner of this production was in and by the vapor of the ocean, caused by the contact of the earth's intense heat with the ocean's water, which enveloped the earth for a long period of time during and following the last catastrophic cataclysm. Into this vaporized element of the earth the sun poured his substance through his long rays; the expressions from such contact were the creatures mankind and their animal comrades, all equipped with organs with which to perpetuate their career.

Is the Sun the source or fount of the organs and intellect we find in these creatures expressed by this contact?

I answer: The Sun is admittedly the source of life on earth, then why not the material source of the intellect and organs of life?

109. The earth adheres to the sun, and his electric and magnetic forces thrill the earth with himself, as discovered by observance of the action of the spots on the sun and the magnetic needle and electric wires on the earth. In such a system would the production of mankind and animal kind in the vaporized womb of the earth be any

more mysterious, or less in accord with the lawful order of things, than the production of a worm in the bowels of a child, or a wriggling thing in the drop of water, or a worm or toad in the vapor of a cloud, under conditions ordinary on earth?

There must be an intellect comprehensive of the forces and laws of things. Is not that intellect, or a flash of it, unified with, or identified in the sun?

110. The action of the comets toward the sun indicate as much; else how is it that comets, like messengers, course through systems without displacing the other inhabitants and occupants thereof, and under entirely different forces and different influences? Some of them are domestic comets, some foreign; those which belong to our system remain within its precincts; others come from beyond and go beyond again, to return no more. The sun receives these messengers and sends them forth throughout his own domain, and beyond into the domain of other systems; some never return, some divide in two, some leave their luminous appendages behind; one left his tail with Jupiter and his moons—possibly seed for some new creation there. Is there no intelligence, design or purpose in this diversified order of things? Were it all automaton there would not be this diversity of motion and action of comets and planets.

111. The earth is not of two qualities, in the sexual sense. Without the sun to make her fruitful, she would bear nothing of life; without the

sun we would not be. By and with the sun, we are, our intellect, not less than our organs.

The capture and control of electric force on earth is by the intellect, in the identified form in which it is there held by man. Is our little earth the only abiding place of intellect in any form, and the only place where intellect participates in controlling the forces which are themselves of matter?

112. To know anything accurately, one must know something of the whole of which it is a part. To have a correct conception of the earth and her creatures, it is necessary to have something like a correct conception of the whole of which they are a part.

113. The Darwinian conception, as applied to their "origin and descent of species," is necessarily puny and false, because it ignores all else but earth. The Darwinians, I think, deceive themselves, too, in the weight they give to endless time; therefrom they assume to supply the wants and cover the breaks in their theory of the "origin and descent of species" on earth.

114. The catastrophies which have marked the earth with their character were such as to destroy all her then living organic creatures, leaving her bereft of her productions of this kind, but not barren of the elements to reproduce another creation similar in kind under conditions similar to those under which the destroyed creation had been produced. The time since the last of these catastrophies is brief indeed. The time

since there was a sheet of ice, miles in thickness, covering the earth from the poles far toward the equator is brief, indeed, too brief to supply the wants of the Darwinian conception.

115. All the matter now of the universe, ever was, and must ever be. All that is or will be is simply an endless panorama of change.

If by explosion, or otherwise, the earth were to be blown to atoms, or changed to a molten or gaseous state, so as to end the order of life on earth, such a change would be in accord with the law of change, but not in accord with the evolution conception. The commencement of the present order of life on the earth, following the last catastrophic cataclysms, was according to the law of contact and change, but not necessarily according to the evolution conception. Nor is there anything in the nature of "descent and modifications" in these changes. In all that we can see decay and death follow upon, and overcome, development and life. Development, then decay, mark the order of change in things. There is no more progression in this than there is retrogression; they are simply the incidents of the law of eternal motion and change. There may be intellectual or Divine design in it all, but that design is not set to the evolution conception for the reasons stated. We may discover and observe the manner of expression by Divinity, or the laws of matter, but we may not know the design, nor comprehend the designer, nor may we comprehend the laws of matter. The manner of the expres-

sions thereof, I think, is by contact; a creation not in accord with the conception of the Darwinian school.

116. In my view, the evidence does not justify the Darwinian conception, and I would cite, in this particular, that the physical man is accumulating more of that which is diseased and destructive than that which is preservative and healthful. The evidence to support this view is appalling. I dare say attention has not been especially given to it. We do know that the French people have received violent shocks by wars and otherwise; that they are a very active and highly sensitive nervous people; that they are ceasing to multiply; that they are degenerating physically, and, as a whole, in all respects they are probably the most advanced in the present mental and physical diseases referred to by Dr. Nordau. Mental and physical disease and degeneracy are now present in an alarming degree in all our most advanced people. Our so-called advanced civilization, with its inventions and discoveries, brings with it more of vice than of virtue, more of destruction than of preservation, more of wretchedness than of happiness, more of disease than of health.

117. There is much to force upon us the impression that mankind are now largely the embodied fruits of disease and violated laws, and are thereby descending through degeneracy to a lower instead of a higher standard; and this gives rise to the hope that some discovery will be made

by which the struggles of life will be ameliorated, so that the actual necessities of life may be easily acquired, and thereby lessen the severity of the struggle for existence, arrest the decline, cure the taints, and heal the wounds of the race, making it practicable to recover and rise to better conditions and higher standards.

118. It is a mistake, I think, to assume that Divine or human intelligence is substanceless. It is of matter and is matter, refined like the fragrance of a flower.

The intelligence rising from the connection and contact of the nerves and brains of the organic man is matter refined. While this material, as well as the material of which the ether of outer space, electricity, and many other things are composed, is such that we are unable to touch, handle and dissect the same, yet I think we may rightfully presume to declare the fact of the existence thereof, the same as we know and declare the fact that time and space, matter and the laws thereof, are eternal, without limit, without beginning or ending.

The Soul, the Spirit, of Man, likewise the Intellectual Spirit existing in the make-up of the universe are of refined matter like unto the fragrance of the flower, electricity the ether above our atmosphere.

It is by the connection and contact of the nerves and the brains of the organic man that his intelligence is conserved and that he has and holds his spirit. Without this connection he would be

idiotic, with no intelligence—no immortal spirit.

This intelligence or spirit is held in and to the organic man, and survives the death of the body; as typified by the chrysalis—the butterfly of the caterpillar. It is clearly seen, I think, that a creature so organized and endowed is of Divine origin.

Results are produced by contacts of matter under the dominion of the all-pervading intelligence of the universe; and being omnipresent, it results that no life exists independent of it; and the intelligence rising from the connection and contact of the nerves with the brains of the organic man is fruit of such substance, and, like the ether of stellar space, and the all-pervading electricity of the universe, it is a substance of eternal existence. In harmony therewith, God created man as he is—intelligence of His intelligence, spirit of His spirit, substance of His substance, and equipped him with organs, forces and powers to hold and transmit the same.

119. Our hope of immortality, I think, has support in the fact that our intelligence is of and from the Divine or All-comprehensive Intelligence, and that is the immortal part of us, and having in us become an ego, and fashioned to a certain identity, accordingly it survives the physical death of the earthly body.

120. The fruits of the earth, gas, oil, coal, metals, etc., etc., and the manner of their preparation, all preceding the coming of man, go far to impress us with the fact that we are creatures of a Designer and a Design, notwithstanding the fact

that we may be unable to fully comprehend the Design.

121. In the sun, I think, there is a seat of exalted intelligence with electrical, magnetic and other forces, all dominated by an intelligence and laws far beyond our comprehension. If the sun were not a seat of material intelligence, the order of life on the earth would, I think, be limited to inanimate things.

122. If the sun is a seat of material intelligence, or a seat of Divine intelligence, or is a material substance and force, in and by which the results shown are produced by the Divine Intelligence, it lawfully and orderly results that creatures flowing from the contacts of sun and earth materials are endowed with more or less of that same intelligence.

Man, being endowed as he is, with the Divine Intelligence and Spirit, shows the same in a degree somewhat commensurate therewith: in his creative genius, in his acquisition of knowledge of things here, and in the utilization of the matter and forces of those things which are placed in his hands here on earth. God, in the universe, does things in the universe, and on a larger scale. He is the All-comprehensive and dominating Spirit in the universe. He created man here on earth in harmony with the laws and the forces of matter, and I doubt not that He has likewise created other creatures in other regions of higher degree, more refined, more ethereal—the ser-

aphim, the cherubim, the angels—and all for purposes and designs of His own.

123. The origin, or source, or fountain of an intelligence comprehensive of numbers is not found in or upon our mother earth, nor is the source of the instinct of her lower creatures. Intelligence is not of earthly origin. Its unlimited range and possibilities are conclusive proofs, I think, of its exalted source.

In the economy of the Darwinian school they ignore the sun, likewise all intelligence save that found in the creatures of life on the earth, and they trace this to “heredity and environment,” and thus account for its existence. While heredity and environment have more or less effect upon the living creatures of the earth and their reproduction and transmission, the assumption that heredity and environment are the source or creators of that life is, I think, manifestly erroneous.

124. In short, the Darwinian or monistic conception is, I think, a false conception, because it rejects a comprehensive intelligence as an eternal factor in the universe and in the life on the earth, and so they of this school take their stand on this earth atom in the universe and declare that the whole thing runs automatically and without the presence of a Comprehensive Intelligence.

They recognize no intelligence but their own, and claim for it a local or earth origin, and that it is its own originator and creator, that its be-

ginning is the earth's protoplasm and is subsequent to matter and the laws thereof.

125. The conception is shockingly abnormal to the ordinary thinker and observer for these reasons: If the earth's protoplasm is of that resourceful quality that it has originated, created and produced mankind and his intelligence, how are the other bodies of the universe in this respect? Our own sun, for instance. Is it not much more exalted than the earth, and might it not far excel the earth in this respect?

If intelligence is a quality anywhere in the matter of the universe, why not in that of the sun?

And how is it possible that the quality should not be co-equal with matter in length of time and both coincident and eternal—from no beginning and to no ending?

126. Over one hundred and fifty years ago Baron De Montesque, in his work entitled, "Spirit of Laws," gave the following:

"Laws in their most general signification are the necessary relations arising from the nature of things. In this sense all beings have their laws, the Deity His laws, the material world its laws, the intelligences superior to man their laws, the beasts their laws, man his laws. They who assert that a blind fatality produced the various effects we behold in this world, thought very absurdly, for can anything be more unreasonable than to pretend that a blind fatality could be productive of intelligent beings? There is, then, a primitive reason and laws are the relations subsist-

ing between it and different beings, and the relations of these to one another. God acts according to the laws because He knows them."

127. I think it self-evident that God is not a first cause, with matter and laws subsequent thereto, but that a Comprehensive Intelligence, God in the universe, with matter and the laws thereof, are eternal, ever were and ever will be, without beginning and without ending, with motion, contact, and life, as characteristics thereof.

And so it is that the All-Comprehensive Intellect and Spirit of the Universe is God, and it is under and by His laws—herein referred to as the laws of matter—that He does things in the universe; that the animalcule are created here on earth, the grasshoppers and other large things of life are created in the cloud; that the still larger things and man were created in the vapor of the last catastrophe on earth, and that man was endowed with that distinguished quality of intelligence.

128. Over seventy years ago, Cuvier, the greatest of all the great thinkers and writers on the subject, declared and proved to the satisfaction of the scientific world that the present order of life on the earth has its origin here since the last glacial period, to-wit: since the last catastrophe, and that the catastrophe was such as to destroy all life on the earth; that the fossilized and otherwise preserved remains found in Siberia and elsewhere of the animal and plant life of a

previous period, were of those existing prior to the catastrophe; that the catastrophe and its work constitute a *hiatus* between the two periods and the living things of the two periods; that the present order of life on the earth does not descend from that existing prior to the glacial period; that the present order of life on the earth is of an original creation and subsequent to the catastrophe with the last glacial as a feature thereof; that this catastrophe and this original creation, or generation following thereon, occurred not more than ten to twelve thousand years ago.

129. From my observations of the work of the wind and water of Puget Sound, in forming sand spits at various coves and inlets of the Sound penetrating the small islands of Puget Sound, the fills by erosion by the small streams flowing into the Sound and the scope of the tide flats, etc., I am satisfied of the correctness of the estimate of the length of time since the last catastrophe and glacial.

As late as June, 1903, Professor Hall, secretary of the Victoria Institute of London, made the statement that: "Not in one single case in the whole of Europe or America has a trace of man's existence been found below the only deposits which we have a right to assume were developed and produced by the great ice period."

Professor Holmes, aided by a special grant of money for that purpose by the Carnegie Institution, declares that there is nothing whatever to

show that man has been in America longer than five or six thousand years.

130. Professor Winchell declares as follows: "Man has no place till after the reign of ice. It has been imagined that the close of the reign of ice dates back perhaps a hundred thousand years. There is no evidence of this. The fact is that we ourselves came upon the earth in time to witness the retreat of the glacial. They still linger in the valleys of the Alps and along the northern shores of Europe and Asia. The fact is, that we are not so far out of the dust, chaos and barbarism of antiquity as we had supposed. Geological events which, from the force of habit in considering them we had imagined to be located far back in the history of things, are found to have transpired at our very door."

131. Professor Frederick Wright, Professor Joseph Phestevich, and Dr. James Crole, Professor Roland D. Salisbury, Dr. Warren Upham, and many others among the leading scientists of the day, have recently voiced much the same views; none of them claiming more than twelve thousand years since man's arrival on this earth.

132. In my judgment the evidence is overwhelming and conclusive that man is a recent comer on earth, and at the closing of the last catastrophe, and within ten thousand years of this time—and there is no evidence to the contrary.

133. As to Cuvier and his teachings, I here now submit some statements of Professor Haeckel, one of the most ardent advocates of the

Darwinian or monistic conception, from his *History of Creation*, Vol. I., page 57:

“In Cuvier’s celebrated work *On the Fossil Bones of Vertebrate Animals*—principally of mammals and reptiles—we see that he had already arrived at the knowledge of some very important and general palæontological laws which are of great consequence to the history of creation. Foremost among them stands the assertion that the extinct species of animals whose remains we find petrified in the different strata of the earth’s crust, lying one above another, differ all the more strikingly from the still living kindred species of animals the deeper those strata lie—in other words, the earlier the animals lived in past ages. In fact, in every perpendicular section of the stratified crust of the earth we find that the different strata, deposited by the water in a certain historical succession, are characterized by different petrifications, and that these extinct organisms become more like those of the present day, the higher the strata lie; in other words, the more recent the period in the earth’s history in which they lived, died, and became encrusted by the deposited and hardened strata of mud.

“However important this general observation of Cuvier’s was in one sense, yet in another it became to him the source of a very serious error. For, as he considered the characteristic petrifications of each individual group of strata (which had been deposited during one main period of the earth’s history) to be entirely different from those of the strata lying above or be-

low, and as he erroneously believed that one and the same species of animal was never found in two succeeding groups of strata, he arrived at the false idea, which was accepted as a law by most subsequent naturalists, that a series of quite distinct periods of creation had succeeded one and another. Each period was supposed to have had its specific animal and vegetable world, each its peculiar specific fauna and flora.

“Cuvier imagined that the whole history of the earth’s crust since the time of living creatures had first appeared on the surface, must be divided into a number of perfectly distinct periods or divisions of time, and that the individual periods must have been separated from one another by peculiar revolutions of an unknown nature. (Cataclysms or catastrophes.) Each revolution was followed by the utter annihilation of the till then existing animals and plants, and after its termination, a completely new creation of organic forms took place. A new world of animals and plants, absolutely and specifically distinct from those of the preceding historical periods, was called into existence at once, and now again peopled the globe for thousands of years, till it again perished suddenly in the crash of a new revolution.

“About the nature and causes of these revolutions, Cuvier expressly says: That no idea could be formed, and that the present active forces in nature were not sufficient for their explanation. Cuvier points out four active causes as the natural forces, or mechanical agents, at present constantly but slowly at work in changing

the earth's surface: First—Rain, which washes down the steep mountain slopes and heaps up debris at their foot. Secondly—Flowing waters, which carry away this debris and deposit it as mud in stagnant waters. Thirdly—The sea, whose breakers gnaw at the steep sea coasts and throw up “dunes” on the flat sea margins. Finally and fourthly—Volcanoes, which break through and heave up the strata of the earth's hardened crust, and pile up and scatter about the products of their eruptions. While Cuvier recognizes the constant slow transformation of the present surface of the earth by these four mighty causes, he asserts, at the same time, that they would not have sufficed to effect the revolutions of the remote ages, and that the anatomical structure of the earth's surface cannot be explained by the necessary action of those mechanical agents: the great and marvelous revolutions of the whole earth's surface must, according to him, have been rather the effects of very peculiar causes, completely unknown to us: the usual thread of development was broken by them, and the course of nature altered.

“These views Cuvier explained in a special work ‘On the Revolutions of the Earth's Surface, and the Changes Which They Have Wrought in the Animal World.’ They were maintained, and generally accepted for a long time, and became the greatest obstacle to the development of a natural history of creation. For if all such all-destructive revolutions had actually occurred, of course a continuity of the development of species, a connecting thread, in the organic history of the earth could not be ad-

mitted at all, and we should be obliged to have recourse to the action of supernatural forces; that is, to the interference of miracles in the natural course of things. It is only through miracles that these revolutions of the earth could have been brought about, and it is only through miracles that, after their cessation and at the commencement of each new period, a new animal and vegetable kingdom could have been created. But science has no room for miracles, for by miracles we understand an interference of supernatural forces in the natural course of matter."

134. These views of Cuvier, so criticised by Haeckel, were set forth, scrutinized, proved and established in the University of Paris in a lengthy and elaborate presentation of the facts as shown by the geological records, and in the presence and scrutiny of the leading scientists and savants of Europe, including the learned Geoffroy Saint-Hilare, who was there testing and questioning throughout. There was no thought nor expression there of anything wrought by miracles; so that Professor Haeckel's assumption that the views of Cuvier rest upon miracles is not only unfounded, but very far-fetched. Yet such is the only argument that has ever yet been brought against the facts upon which the conclusions of Cuvier rest.

135. I take it, that none would be justified in assuming that the presence of the mountain chains of the earth were by miracles, nor that the dead animals of the pre-glacial period, now found in

the ice of the now frigid zones, are there by miracles, nor that the piled-up bones of marine animals of a past period which are found in the ocean's bottom are there by miracles, nor that the fossilized remains of animals and plants of the pre-glacial period are so preserved, nor that the phosphate beds which are composed of the piled-up dead animals of the pre-glacial period were the result of miracles, nor that the earthquakes and volcanoes are by miracles, nor that the generation or creation of fever germs, microbes and animalcule, now constantly going on, are the result of miracles.

Yet they are in no sense any less miraculous than the cataclysm or catastrophe which marks the end of one period and the beginning of another. That they are all alike by due process of law is self-evident.

136. The conclusions maintained by Cuvier are founded upon the indubitable and indisputable facts shown by the record of events.

137. The likeness of Cuvier's head, as shown in Vol. 2, "International Library of References," and elsewhere, and the phenomenal intellect of Cuvier, as shown by his writings and teachings, and the historical accounts of the man and his works, show him, I think, to be by large odds the superior in point of intellect and knowledge to both Darwin and Haeckel.

138. That there should be an orderly system in the universe without any mind intelligence is intolerable.

That the earth and the creature man should be the monopolists of intelligence, or that the earth should be the only fount or the only producer thereof, is likewise intolerable.

That the intelligence with which mankind is endowed is in no way a part of or from that exalted intelligence by which the universe is ordered is likewise intolerable and unacceptable to the ordinary thinker and observer.

139. As to the original creation or generation of mankind on the earth: That Cuvier's way and time of his coming is miraculous and that Haeckel's way and time of his coming would not be miraculous is, I think, a baseless assumption.

140. The way and time, as stated by Cuvier, is by due and orderly process of law, and I think is clearly seen in the now conceded facts.

141. It is conceded, I take it, that of the lower orders of life—germs, animalcule, etc.—that continuous original creation or generation thereof is constantly going on.

142. That a higher order of life is generated or created in the clouds when held long in contact with the sun's rays.

143. It follows, I think, that by the same law the present order of life on the earth had its origin in the vapors enveloping the earth in the last catastrophe, and of which the glacial was a feature.

144. It is difficult to find words by which to adequately express and convey one's meaning to

the mind of the ordinary thinker and observer in the discussion of this subject.

145. I here present two letters to Dr. Jordan, President of Stanford University, and his replies thereto, and with his assent. They may aid somewhat in conveying my meaning, and also show with what tenacity those of the Darwinian school cling to their conception:

“Tacoma, Washington, March 2, 1904.

“Mr. David Starr Jordan,

“President Stanford University,

“California—

“Dear Sir: I have just finished reading your ‘Foot Notes to Evolution,’ sent to me by my daughter, now at Stanford. I am constrained to submit a few brief notes on the subject for your consideration. They are as follows:

“Agassiz—as you state—said that ‘Facts are stupid things until brought into connection with some general law.’

“I think this is quite true and pertinent in the field of scientific thought.

“It is likewise a true and pertinent fact, I think, that the forces and the intelligence in the regions beyond the earth are so far beyond the scope of our understanding that we are unable to correctly measure them by the measures known to us here, and it results that our wisest men are prone to erroneous conceptions and conclusions touching the things beyond their immediate environment.

“To illustrate: It is known to us that the sun radiates much heat, and, measured by our measurements and knowledge of things here, it would follow that the sun

must be constantly fed with fuel to counterbalance this radiation of heat, else exhaustion would follow; and our wise men have accordingly asserted this rule of consumption and supply for the sun, and have attempted in various ways to supply the necessary fuel for this conception. Yet it is evident that no such rule prevails in the sun and that the fact we behold fits no such rule in the sun, and that the forces and intelligence thereof are far beyond our understanding. Yet while we have an intelligence and perception vague and dim, it is nevertheless in a measure unlimited in its possibilities. This, I think, is strong evidence that it comes from a higher source than the earth.

"To further illustrate: *Radium*, as we get it here on the earth is, I think, just so much of the sun's elements which retains or carries with it the sun's characteristics, viz.: it radiates heat without exhaustion, and shows many other characteristics, which seem to be violative of what we thought we knew to be fixed law, and shows that our knowledge of things here constitutes an insufficient if not a misleading guide for things beyond our immediate environment.

"Now, return to the statement made by Agassiz that facts are stupid things until brought into connection with some general law.

"I here now present such a fact, and it is one that I think deserves consideration by our scientific people, to-wit: the fact that livings things do at times come down with the rain. In the County of Stark, State of Ohio, some years since, I wit-

nessed a shower of rain and small toads. The toads were perfectly formed and hopped around on the ground; the rain and toads spread over a considerable scope of country; they were empty, quite light, and about the size of a honey bee, not so plump. These were undoubtedly original creatures, because there were not before then any such specimens known to exist on the face of the earth, nor are there any such now, none of them surviving to perpetuate their existence; besides, the rising vapor cannot be loaded with any such freight. They were generated in the cloud, which had, doubtless, been held long in contact with the sun's rays. Showing, as I think, that by contact of the vapor of the clouds with the sun's rays, original creation of organic life results. The fact that living creatures come down with the rain is a common fact, and I know it to be the truth in all such instances brought to my attention, that the things so brought into life are different from any others, and really constitute a new variety. The wise men, by reason of their environment and education, cannot see their way to accept this fact.

"It is only one hundred years ago that they, in like manner, could not see their way to accept the fact that meteoric rock came from space to the earth, and they emphatically denied it till forced by the unlearned to accept the fact; then they adjusted their education to the fact. Just so, I think, with the fact of original generation in the cloud or earth vapor, long in contact with the sun's rays, and when the scientific people are compelled to accept this fact, they will adjust therewith and necessarily

drop that dreary conception of the origin and descent of species projected by Darwin.

"Cuvier's, I think, was the brightest intellect that ever illuminated the pathway of science. His conception of catastrophes and new creations thereafter is, in my opinion, the correct one, and is susceptible of absolute proof. Darwin concedes that there has been no material change in the species since the last glacial, except by the domestication of some animals, and the extinction of some others. It seems to be a self-evident fact that a condition of the elements productive of the vapor necessary to the making of the rain and ice of the glacier that capped both poles, and reached far toward the equator, was destructive of all life on the earth; and that such extraordinary condition of vapor constituted the womb wherein the extraordinary creation we now have followed by the sun's contact therewith, being extraordinary in the same proportion that the conditions then present were extraordinary.

"Cuvier thought, and I believe correctly, that the present period covers from six to ten thousand years only; that is to say, that such is the length of time since the last glacier—the last catastrophe—the last original extraordinary creation. There is strong proof of this in the work done by the action of the wind and water in and around the islands and coves of Puget Sound, since the last glacier. In the Cuvier conception of new and original creations, the homology, or things in common through the whole scope of organic life on the earth is accounted for in the fact that all are produced from the *same materials, under*

the same laws and Architect and Designer, and it follows therefrom that it could not be otherwise.

"In the Darwinian conception much importance is given to the facts pertaining to embryology. These facts, from my scrutiny of the human embryo and foetus in all stages of its existence are, I think, much overstated in the books supporting the Darwinian conception. The assumption that the embryo repeats the Darwinian history in its period of gestation is not true. The fact that the material held and supplied to the formation of the foetus is held in a form resembling an anterior projection thereto, is far from being evidence of a tail to the embryo, and the fact that this assumed tail can be traced to the formation of the lower end of the spinal column of the foetus is to my mind conclusive evidence against the Darwinian assumption of an actual tail to the embryo.

"The fact that I have here presented, to-wit: that living things come down with the rain, ceases to be a stupid fact when brought into connection with the general law that all life springs from contact of different elements. In the matter of reproduction by sexual process, we see the result of the forces obedient to the laws. This seems simple to us because it is so common to us. In the contact of the sun's rays with the still water on the earth we see the result of the forces under this law in the life thereby brought into existence in the water so exposed. In the contact of the sun's rays with the vapor of the cloud held long exposed thereto, we see the result of the forces there held un-

der this law, in the creation of a higher order of life, such as comes down with the rain, and it is by these revelations that we are carried back to the conditions present in the last catastrophe, when one-third or one-half of all the water of the oceans was sent up in vapor out of which glaciers were formed which capped both poles with the covering of ice reaching far toward the equator; the immense mass of vapor then enveloping the earth and remaining warm at the equator constituted the womb of the earth, and in contact with the sun's rays; by the forces then and there present, obedient to the same law, we have the origin of the present order of life on the earth.

"These catastrophes doubtless were produced by cracks in the earth's crust in the mountain-making process, whereby the endless heat in and under the earth's crust was brought into contact with the endless water in the ocean. While there was doubtless some sort of design in the scheme, there was no miracle in it. In the Cuvier conception there is a place for a Comprehensive Intelligence—God—in the affairs of the universe. But in the Darwinian conception there is no such place; everything is its own creator, and Haeckel and nearly all the now supporters of the Darwinian conception insist on running the universe without a God.

"Respectfully submitted,

"JOHN C. STALLCUP."

"Stanford University, Cal., March 8, 1904.

"Mr. John C. Stallcup,

"Equitable Building,

"Tacoma, Washington—

"Dear Sir: Please accept my thanks for your very interesting letter. I am sorry that I cannot agree with your conclusions, however interesting and ingenious I may find them.

"I think it is true that the special workers in science, while they are not able to understand forces, that is, to translate them into terms of ordinary experience, yet they come very much nearer doing so than is generally understood. It is not thought that the sun radiates energy without securing it from some other source, but there are many other sources than combustion, as for instance, shrinkage or electric action. We have no reason to believe that radium sends out heat without exhaustion. It is pretty well known that it sends out three different kinds of activity, and so far as it sends them out, it doubtless loses them. So far from the nature of radium disproving what we thought to be a fixed law, it furnishes additional testimony in the same direction. It is true that young toads and tadpoles have come down from the skies in the rain. It is also true that in every case where these have been examined, the species are identical with those found in the neighborhood, and their ascent into the air is doubtless due to cyclones. So far as this matter has been investigated, there is no reason for having any other view of the case. Meteoric rock has been shown to

come from masses of debris traveling about the sun, but the living animals are always of a kind found in the immediate neighborhood.

"I should not take it as self-evident that the glacial period was destructive of all life on the earth. The conditions away from the foot of the glaciers were not very different from the conditions at present.

"The statement that the embryo repeats the history of the race is true as a general rule, but with numerous modifications. Wherever, for any reason, it is not to the advantage of the specie thus to repeat itself, natural selection has altered it.

"It is the general belief of geologists that catastrophes, in the sense in which Cuvier understood them, altering the face of the earth on a very large scale, have not occurred.

"The movement of life has proceeded very evenly as a whole, though much interrupted in individual localities.

"Very truly yours,

"DAVID S. JORDAN."

Dr. Jordan is known as one of the foremost educators of this country and one of the ablest and most distinguished university presidents. Yet it will be observed that he is tied to the Darwinian Conception, and accordingly makes the remarkable statement:

"I should not take it as self-evident that the glacial period was destructive of all life on the earth. The conditions away from the foot of the glaciers were not very different from the conditions at present."

"Tacoma, Washington, April 12, 1904.

"My Dear Mr. Jordan:

"I wish to say a word or so in reply to your very kind and courteous letter of the 8th ultimo.

"In effect, I think you therein admit the basic fact of my position. By the life produced by the sun's force upon the still water of the earth we see the presence and force of the general law I aim to bring to your attention. It is under this same law that the life in the cloud vapor occurs, I think. When you admit the fact that living things come down with the rain, you thereby admit the basic fact, and therewith the law of my whole case—because rain is of condensed vapor—and not of water picked up by cyclonic action. I don't write this letter for the purpose of provoking further discussion, but to get you to thinking away from your present conceptions and in a direction where I think there is much of value to be discovered.

"I think the Darwinian conception is entirely false and constitutes a bar on which many of our best thinkers are stranded. I write really to state one or two startling facts in the hope that I may thereby jar you off the bar.

"They are facts in harmony with that same general law above referred to. It is a fact that our locusts and grasshoppers are originated in the upper atmosphere or cloud, and come down from there to the earth; that every locust or grasshopper plague that has ever visited any locality on the earth, the locust or grasshoppers have come in this way, and in each instance the product is original and not like the

others, though similar thereto. Where the conditions are favorable they remain and propagate, but always become diminished in numbers. Some time in the future these facts will be seen and universally conceded—probably not in my time, however.

“It is plainly seen, I think, that the living things of earth spring as a result or expression from the contact occurring by the energy and motion of matter—so in the original production as well as in the sexual reproduction thereof.

“Such life had a beginning—an origin. This, I believe, is near at hand, and not buried out of sight in the fathomless depths of the endless past of time.

“Ordinary original generation proceeds all the time here on the earth wherever the sun shines with sufficient force and contacts.

“In Brazil this is clearly seen in the lower orders of life there, because of the great moisture and sun force present.

“By the same law that ordinary generation occurs under ordinary conditions, extraordinary generation occurs under extraordinary conditions, such as were coincident with the catastrophes. If the race ever attains to the millenium state, it will be when we have learned how to maintain our existence with little or no effort, so that strife in a measure will cease and money lose its power—and when we have learned to regulate the manner of propagating the race and cease to propagate degenerate stock. The Darwinian way leads not to the millenium. I think the new light by which we are to progress is in a better

understanding of the sun, its qualities and forces. I would turn the thinkers and investigators in that direction. I would favor governmental appropriations to maintain a commission of the best scientists permanently to investigate the forces of the earth and sun.

"Jesus Christ was, I think, of the Essene sect, and an observer of the qualities of the herbs and forces of the sun. The sun itself is, I believe, a seat of Exalted Intelligence.

"I think the whole evolution conception is a fallacy. I enclose an extract from my views on that subject written some years since. The Darwinian conception is too barren to even account for the worms found in the bowels of babes, and the assumption thereof touching the sexes seems in violation of all fact and law touching those organs.

"The people of Korea are today degenerate and imbecile, while three thousand years ago they were, on the contrary, strong and vigorous. So it is in a measure with all people—old in civilization. There is an infinite variety in the order of life on the earth. There is no proof that any one of the larger or extraordinary species existed prior to the others thereof, but all go to prove that they were by synchronal expression of the creative forces. The little we know seems to darken instead of lightening our way to that which may be known.

"The conditions upon the earth when it was enclosed by the vapor from which the glaciers were formed were such, I think, as to obliterate all life, and before

the ice was formed, because thereby the sun's force, which is essential to the maintenance of life on the earth, was shut off by the dense vapor.

Truly yours,

"JOHN C. STALLCUP."

"Stanford University, Cal., April 5, 1904.

"Hon. John C. Stallcup,

"Equitable Building,

"Tacoma, Washington—

"Dear Sir: I am afraid that our points of view are so different that we can hardly appreciate the force of each other's arguments. Every experiment directed towards the investigation of spontaneous generation has failed to show even a probability of its existence. As to the other matters, I should agree with you as to some things and question the facts as to others.

"Please accept my thanks for your very interesting pamphlet, which I have read with much pleasure.

"Very truly yours,

"DAVID S. JORDAN."

In this connection I note the fact that the scientists state, and I believe all concede, that it required a third to a half of all the water of the oceans of the earth to produce the last glacier, which formed that ice covering of the earth, which capped each pole and extended in great thickness well nigh to the equator.

The fact that calculations have been made by those competent, I believe, and it is thereby shown

that when that much water was up in the form of vapor and cloud enveloping the earth, that the depth and density thereof were such as to shut out the light and force of the sun from the earth, so that the earth itself was wrapped in pitch darkness till that great volume of moisture cooled, condensed, and fell in the rain, snow and ice that formed that glacier.

The fact that the remaining tracks of the glacier do not tell how much farther toward the equator the glacier extended, yet it is evident that the sun thawed off much of the foot of the glacier before its movements there were such as to leave any remaining tracks or evidence of its presence there. And the fact that the planets have never varied a second of time in their journeys around the sun, and this I take as evidence conclusive that the sun's force is constant, without increase or decrease in heat or force of any kind.

146. The characteristic of infinite variety in things is present throughout the earth and universe as well. We see the same similitude yet variety in the weeds, the grasses and the herbs, with their great variety in medicinal and other qualities; why not the same with animals and man; such seems to be the manner of expression under the eternal laws of the universe. And there is nothing to show that the lines of distinction between the vegetable and animal kingdoms were not always as marked as they are now, nor is there anything to show that there ever was,

during this period, any less variety of families or species than now in either.

147. The seed of life is in the mother earth; the sun's contact therewith is what brings forth life and living things, and there is no more mystery in this than in the ordinary contact of insects, animals and man, which lead to and produce conception and life. And such life is fashioned by the conditions of the elements attending. This characteristic seems to be marked and emblazoned in glaring colors in all the records of our earth of past and present time.

148. Natural laws, laws of force, of space, of matter, of time, mathematical truths and principles, are eternal; they ever were along and co-existent with time, space and matter.

149. It seems that man is a recent comer here; but yesterday he did not exist upon this earth nor anywhere else, so far as we can know; there is no record of him in the geological records of the past periods of the earth's career. This is really the morning of the first day of his existence here or anywhere. Counting a geological period a day, it is possible that this may be the last day of his existence here or anywhere; for possibly this earth will meet with another catastrophe in which her creatures will perish, and the new creation which will follow will be in accord with the elements and conditions then present.

150. The grandest specimen of that expression here then of the contacts of matter under the laws may be inferior to the present man and it

may be superior to him. In this great machinery of the universe, held together and run by these laws, laws co-existent with time and space, where is the Divine Intelligence? And is there any cord of sympathy between that and man? We search for it in the wake of the cyclone and the earthquake, in the prisons for those bereft of reason and hope, in the groans of the tortured, in the roaring ocean, in the starry night, in the records of our mother earth, but in vain. These, and all that we can see or find are dumb subjects of relentless and eternal laws, and know not pity nor sympathy. Laws unknown and unknowable—before which man and all creatures of the earth, from the king on his throne to the spider in his web, struggle for the maintenance of their frail existence.

151. If there is nothing of man but that which he acquired from the earth, his death is the final end, but if his spirit—his intelligence—is from a higher fountain, that fact, and that alone, supports our hope in an immortality to which that spirit—that intelligence—survives the death of the body.

152. In each production of man, whether in the original creation or the subsequent repetition of a similar process by man in his own sexual operations, a new identity is produced, an identity which did not before exist. It would seem that when these materials bloom and decay and again go into the boundless sea of matter, that this identity is lost; the same with man as with any other

thing; the dewdrop, the rainbow, the insect, the animal and man; all seem doomed to lose their identity in the destruction of the life thereof, of which there is no retraction, unless this intelligence with which he is endowed is of Divine origin and immortal, and is of that great Divine quality—without beginning or without ending.

153. Man finds himself in a struggle to maintain his existence, and this is done by selfish action; for selfishness in this struggle is essential to his existence. It is not in violation of law, but in accord with the law of self-preservation. Man in his present environment cannot get away from the dominion of this law any more than a rattlesnake can get away from his rattles and his fangs of poison. The hope that man will learn to give his cloak to him who has taken his coat seems vain and delusive; in his attempt to do so he sacrifices himself upon the altar of a beautiful ideality.

154. Man cannot avoid this struggle for existence, for he cannot as yet change the conditions around him, ameliorate the severity of the struggle, nor annul the laws of his being. By these laws and conditions exertion is necessary to his existence and he is likewise by the same laws impelled to that exertion. So long as this remains as it now is, selfishness and dominion are unavoidable, and of necessity are characteristics of man's actions; with the rule referred to, as an ideality, the exact opposite of the reality. Not until great exertion ceases to be necessary to existence can

the character of the struggle be changed; it may become more refined and less barbarous, but never changed in its real character so long as man remains in his present environment—so because his frailties and necessities are such that he cannot rise to that high conception taught by Jesus Christ.

155. As against the assumption that man is endowed with a Divine Intelligence, which is immortal and survives the death of the body, and that he is a creature of design by a Divine Intelligence, it is sometimes argued that God cannot consistently be the author of a race fraught with such evil, suffering, torture and disaster as we see existing among the races of mankind on the earth. But, as I view it, such arguments are superficial and untenable.

156. While the races of mankind as a whole, under present conditions, are too frail to rise to the higher virtues in their actions toward each other, it does not follow that there is no balm of Gilead anywhere for the wounds received in the struggles prevailing here. If we look deeper into the proposition we may see that without sorrow there would be no joy, without weariness there would be no rest, without impediment or adversity there would be no effort, and without effort there could be no achievement—besides, we may not know the full philosophy of the scheme of the Designer of the races of mankind on this earth—His immortality, His intelligence, may be gathered to another and more exalted planet, nearer

the sun—like Venus—or to a less exalted one farther from the sun—like Mars.

157. Time, space, force, matter, and the laws thereof are without beginning and without ending, and it results that Divine and human intelligence are likewise without beginning and without ending.

158. It seems unfortunate that we were not created higher or lower beings, for as we are now we have perception and consciousness to make us weary of our state. If we were of a lower degree, more like the animals, we would be unconscious of our significance and would bask without dread in our momentary existence, untroubled by the light which now flickers in our intelligence. We seem to be

“Half dust, half deity,

Alike unfit to sink or soar.”

Yet it may be that the philosophy of the scheme of mankind is found in this peculiar character and the trials and struggles which thereby beset us here.

159. The intellect of man revels in regions beyond the earth. It feeds on an imaginary diet; with wings of imagination it flees from earth to heaven; from the *real* earth to the *ideal* heaven. It grasps the opposite of its distress; its domain is in the real and the ideal worlds; in the ideal world it finds balm for the wounds of the real world.

Man is the only creature on this earth that stands in need of this ideal balm. Life is made

endurable thereby. The intellect for its own preservation exists upon this balm, this hope—they are its diet. To beautify the ugly things of the real or earthly world it flees to the ideal or spiritual world. As I have said, the intellect grasps the opposite, the counterpart, the spiritual balm for its distress.

In its ideal domain there is a balm for the distresses of its real domain, and it is by this trait, peculiar to the intellect of man, that he knocks at the ideal doors of an ideal heaven and of an ideal life eternal. And by these ideal props thus erected, he endures much and weathers many storms and tortures. When he is adrift on a plank, in the storm of the ocean, he sees the fire of his hearth and feels the love of his kindred, and they fire his hopes. When he is burning with fever and perishing in its fires, rosy health comes to his vision and buoys him in his struggle. In his ignorance, the roar of the thunder, the flash of the lightning, the storm, and the earthquake terrify him, and in his fear and helplessness he invokes the protection and comfort of a God, superior to all elements and all evils. Likewise, in his education and sympathy, in the contemplation of the wretchedness of humanity *here*, he sees the counterpart in a blissful restful life *hereafter* in the care of the Divine Protector; ever seeking that which exists somewhere beyond.

160. What could have been more fitting than the coming of a Christ with boundless pity and hope? It is said of Him that when His work was

done that He ascended from the earth; but it is doubtless an error to say that His body ascended. It was doubtless His spirit that ascended and it was doubtless of a substance visible to the eyes of two of his disciples, Mark and Luke, who verify the fact.

161. The intellect by which man carries on the struggle for his brief existence here, by which he observes the workings of the laws of the universe, measures and weighs the planets, tells the orbits thereof, the hour of their coming and going, and contemplates the things beyond the scope of his power, has its origin from a source higher than the earth. "What springs from earth dissolves to earth again, and heaven-born things fly to their native seat." There is no annihilation of any matter of the universe, and it follows by the same law that there is no annihilation of the spirit of intelligence of the universe.

162. As at present conditioned, the human race seems to be too frail to successfully maintain the democratic conception of government for any great length of time in any of the national subdivisions of the race. This is so because of the fact that, notwithstanding the greatest possible *distribution* of power is made to begin with, it will, as time goes on, gravitate to centralization, when those who so hold and control the power use it against those who do not control it, and so it accordingly becomes more and more unequal and oppressive; because we are surrounded by all

kinds of possible dangers and disasters and are continually fortifying in fear of the same.

The Christ conception is likewise a standard of excellence too high for successful maintenance by the race under present conditions. If the race ever attains to these high standards of excellence, I think it will be under conditions more favorable than we now have on earth.

163. It is only by the catastrophic theory that we can account for the marked periods of the earth's crust and the mountains thereof. The remains of the creatures of life, of each period, the condition of the hairy elephants in the ice of Siberia, the covering over of the forests of ferns, etc., of those periods which formed our coal beds, and the phosphate beds of South Carolina, Georgia and Florida, formed from the bones and flesh of those gigantic animals of a past period.

164. The Precession theory, which is that the earth turns one pole to the sun, thus leaving the north end to cool while the south end is warming, and the south end to cool while the north end is warming, has never been recognized nor accepted and in no way comprehends nor accounts for the geological facts herein referred to.

165. The rule of Bacon known as the inductive process of reasoning is a good enough rule when not restricted. I would state the rule thus: All truths harmonize and constitute an illimitable whole, each kindred to and connected with the others.

So when a proposition seems in accord with

all we know we should be inclined to accept it as correct; and I would hunt out truth by no arbitrary rule, but by a perception aided by types and all things else that would quicken it to a penetration into the workings of the eternal laws of eternal matter, in the illimitable domain of space and time.

166. Life on this earth in the various forms we find it, transmits itself according to the law that like begets like, subject to the law by which there is a continuous change in the conditions of matter. Sometimes this transmission of life seems to be in what we call a progressive channel, at other times, retrogressive, but these deviations are always within limits, within such limits that no old species loses itself in a new one.

167. At times these creatures of a brief conscious identity seem favored by happy conditions for a while, and then there is an apparent advancement or development, but the end is soon reached and the same in the retrograde movement produced by unfavorable conditions; in short, it is not shown that any creature class, any species of living creatures ever evolved out of and beyond so as to lose itself in some other distinct species. The ass and the horse are sufficiently similar to mingle and produce the mongrel, the mule, somewhat different from the ass or the horse, but there the limit is struck, for such offspring is sterile, and so it is in a measure throughout.

Certain conditions will improve or degrade the horse or the ass, but they will remain horse

and ass to the end, for the one step toward setting him out of or beyond this limit raises a barrier to such a thing.

While this is beyond human understanding, to my mind it is a strong denial of the Darwinian theory of the "origin and descent" of man.

168. When we consider what an insignificant part our mother earth is of the solar system (without looking beyond), the assumption that mankind are the headlights and monopolists of all identified intelligence must appear to be an absurd and erroneous assumption, especially in view of the fact that such intelligence is incapable of comprehending any of the laws and but few of the facts pertaining to the things around us. I presume, however, that the ant in his hill holds too much the same kind of assumption relative to his superiors, and accordingly assumes that man and larger objects are creatures of motion, but without intelligence; much after man's present conception of the bodies of space within his observation. That a thing has an identity in life is evidenced by the fact that that thing possesses force with the power of a discriminating exercise thereof. Intelligence is an attribute of all matter that has such an identity in life. A thing that has an existence in and of itself, possessed of vital force in and of the life of the matter composing it, is a thing of life and of intelligence. I deny that such life, such intelligence, is limited to the creatures that inhabit the earth.

169. The intelligence of Kepler by many

years of labor, thought and observation, discovered some deeply hidden facts and laws relative to force as exercised by the sun upon the planets of his system, viz.: that a line connecting the center of the earth with the center of the sun, passes over equal spaces at equal times; also, that the squares of the times of revolution of the planets about the sun are proportionate to the cubes of the mean distance from the sun. The fact that the keenest and brightest specimen of man's intellect under the most favorable conditions was scarcely able to penetrate to and grasp these truths relating to the running force of the solar system, is strong proof that these truths so discovered and relating to that system of things so superior to man and the earth, are but a few of the many other truths kindred thereto existing in that exalted system, but yet out of the range of man's intelligence; and is also proof that the intellect of man is kindred to the intellect of that system, and that it is by this kindred character that his intellect is capable of comprehending some of the truths and intelligence of that superior realm of superior intelligence. So, may it not be true that there is intelligence abundantly superior to the intelligence of man; that the sun of our system is an abiding place of such superior intelligence, and that the intellect of man has its origin therefrom? The fact that all matter of an identity in life is possessed of an intelligence as an attribute of that life, is proof that intelligence comes by the contact by which that life is produced, and is of that

life. It would seem that if the creature man on this planet had caught a touch of what we call intelligence then the sun, the center and source of the force and life of the solar system, should not be void of this quality, but that it must not only possess it, but in an eminent degree, and likewise all other suns and centers of systems, and that such are the abiding places or seats of intelligence. That from such sources it is given forth; the life-giving properties of these central bodies are given forth to all things in contact therewith; that life and intelligence are one and inseparable and flow together as one. The difference in intelligence of different things is measured by the difference in the matter and conditions producing them, and the endurance thereof is measured by the endurance of the life force of the things.

170. The comets in their actions are the wonder of all observers. Those of them having their orbits within the solar system seem more in accord with the known characteristics of the laws of the solar system, by which the sun holds the planets in their places, than those comets whose journeys or orbits extend far beyond the solar system.

The laws of the sun's force in his system, as discovered by the observations of Pythagoras, Copernicus, Kepler, Galileo, and Newton, are apparently violated by these comets in their coming into and going out of the solar system. They come into the solar system, seem to be received by

the sun, by him are sent forth again, beyond his system, and to other suns and other systems.

This remarkable and puzzling characteristic of the sun's application of force, repellant and attractive, to these comets, so different from the manner by which the sun's force is applied to the planets within his system (in that the comets seem subject to other and different influences and laws, and not obedient to the laws by which the planets are governed), has thus far baffled the intellect of man to comprehend or explain.

It has occurred to me that when a comet goes beyond the sun's system, into another system, it falls under the influence of the sun of that system, becomes subject to the force, attractive and repellant, thereof, and is received and returned or sent elsewhere by the force from that sun in like manner as it was first received and sent forth by the sun that first sent it forth.

171. It has also occurred to me that the sun himself is not an automaton, but a thing of life and intellect, and that the apparent discrimination in the application of force under the laws in his domain is an intellectual discrimination by which force, varied by intellectual knowledge thereof, is applied to the comets in a different degree, and for special and intellectual purposes; that the comets are messengers of the suns, or mediums of intercourse by which they hold intercourse with other bodies in and out of their own systems.

If the sun is not a thing of life, exercising an

inherent impulse and power intellectual of its own, in harmony with the law of its being, then it is a dumb subject of force, and exists and acts in obedience thereto, a mere automaton, charged with its force from some other source, like that which I conceive the sun in itself to be.

172. That the sun is not such a subject seems evident from the fact that the life by which he and his whole system, as well as the comets of both classes are controlled, is within and of the sun himself; for he seems to be the source of the force and life, the intelligence by which all things in his system are governed. Is it not therefore a creature of identity in life, of intelligence, and accordingly the source of all life and all intelligence within his system? He seems possessed of the power of sustaining his vitality against exhaustion or destruction from any quarter.

173. We are learning more and more of the characteristics of the sun; that the corona as seen in the total eclipse of the sun by the moon is an appendage and part of the sun, and is one of the most interesting subjects that has ever engaged the attention of astronomers and scientists.

Until we know the elements and characteristics of the sun, of its corona, its rays of life, and something of the intervening elements, we cannot know to what extent the process of life expression within our observation are like or unlike this process by which the life on this earth is produced in the first instance after the catastrophes hereinbefore described. It is enough for all that is here

claimed—to show that the sun is possessed of life-giving force and power.

174. It should be remembered that the earth is mainly passive; that its actions are by the direct or indirect force of the sun; that it is not so with the sun. He not only perpetuates himself, but he supplies the life and force necessary to the maintenance of all his system—in this respect we are like the sun in a meager or typical way—we have the power of supplying ourselves, of staying wastes and maintaining intact our identities, and thus it is that we have organs and intellect.

175. If life on this earth was produced by the contact of the earth's elements and the sun's elements, does it not follow that this life partook of the blended characteristics of these two classes of elements and in obedience to the law that "like begets like"?

May not the intellect of the creatures of this life have come through and by way of the sun?

Does not the sun's care and control of the planets of his system—parts of his system—seem characterized by an intelligence working harmoniously with eternal laws? And, likewise, do not the actions of the comets under his power and control, by an intelligence working in harmony with the law of centripetal and centrifugal force apparently different from the action of the planets, indicate an intellectual discrimination in the exercise of the sun's power? When we note how he holds the planets steadily and constantly in their respective positions around him, and how he sends

the comets off beyond his own system, as his messengers to and from other suns and other systems, coming and going, by force attractive and force repellant, differently applied and apparently for the purpose of intelligent communication and intercourse, may we not conclude that we have found our intellectual source, where intelligence is in harmonious action with eternal laws and their operations on eternal matter, in a much more eminent degree than we find it here upon the earth?

176. The proposition that all things of identity in life are produced by the contact of different elements of matter is incontestible; likewise is the proposition that such things partake of the characteristics of the different elements in the contact. Is not the proposition that all life on the earth is produced by the contact of the sun's elements with the elements of the earth likewise incontestible?

177. I quote the following from Humboldt's *Cosmos*, Vol. IV., pages 59-60:

"The sun considered as the central body—"the lantern of the world" (*lucerna mundi*) as Copernicus names the sun, enthroned in the center is, according to Theophrastus of Smyrna, the all-vivifying, pulsating, heart of the universe, the primary source of light and radiating heat and the generator of numerous terrestrial electromagnetic processes, and indeed of the greater part of the organic vital activity upon our planet, more especially that of the vegetable kingdom.

"In considering the expression of solar force in its widest generality, we find that

it gives rise to alterations on the surface of the earth—partly by gravitative attraction—as in the ebb and flow of the ocean, partly by light and heat-generating transverse vibrations of ether, as in the fructifying admixture of the aerial and aqueous envelopes of our planet, from the contact of atmosphere with the vaporizing fluid element in seas, lakes and rivers. The solar action operates, moreover, by differences of heat in exciting atmospheric and oceanic currents; it operates in the generation and maintenance of the electro-magnetic activity of the earth's crust and that of the oxygen contained in the atmosphere; at one time calling forth calm and gentle forces of chemical attraction, and variously determining organic life in the endosmose of cell-walls and in the tissue of muscular and nervous fibers; at another time evoking light processes in the atmosphere, such as the colored coruscations of the polar light, the thunder and lightning, hurricanes and waterspouts.

“Our object in endeavoring to compress in one picture the influences of solar action, insofar as they are independent of the orbit and the position of the axis of the globe, has been clearly to demonstrate by an exposition of the connection existing between great, and at first sight, heterogeneous phenomena, how physical nature may be depicted in the History of the Cosmos as a whole moved and animated by internal and frequently self-adjusting forces. But the waves of light not only exert a decomposing and recombining action on the corporeal world—they not only call forth the tender germs of plants from the earth,

generate the green coloring matter (Chlorophyll) within the leaf, and give color to the fragrant blossom—they not only produce myriads of reflected images of the sun in the graceful play of the waves as in the moving grass of the fields, but the rays of the celestial light in the varied gradations of their intensity and duration are also mysteriously connected, with the inner life of man, his intellectual susceptibilities, and the melancholy or cheerful tone of his feelings.”

178. It has occurred to me that if the several governments of the earth were to establish an international congress for astronomers, geologists, chemists and scientists generally, and employ their concentrated thought, labor and skill continuously, with an ample supply of means with which to procure all things with which to facilitate the research for the discovery of facts relative to the laws of the elements of the sun and the earth, the contacts thereof, I think we would make greater progress in the acquisition of knowledge touching the same.

179. In all that we can see and know of matter under the laws thereof, there seems to be enough of order and system therein to suggest a Designer, a Divinity, a Force Intellectual.

180. In view of the frailties and necessities of mankind in this life here, it is clearly seen that it is only an approximation to a high standard of excellence that is at all attainable under present conditions, but notwithstanding the perfect standard is out of reach of attainment, there is wisdom

in the efforts to an approximation thereof, for without doubt there is great utility in thus striving for the impossible here, because we thereby cultivate the higher virtues and thereby become better fitted and equipped to attain the same in the life hereafter.

181. For years it was believed that the democratic conception of government as we had it in the United States of America was not only practicable and lasting, but of the highest order of human excellence. And for many years many of us lived and labored in that faith. Yet we have lived to see and feel a change—to see the crumbling of the democratic conception of government, and to feel that it is impracticable in a country of the present magnitude of the United States. The plutocratic forces have absorbed the independence of the heretofore ruling masses, and instead have given to this same mass a condition of dependence that subjects them largely to the control of the plutocratic forces. It seems that the democratic conception of government for mankind is either too exalted for the frailties of mankind or else is opposed to some unyielding law of things, and the high conception of the Christian religion likewise seems to be above our capacity.

182. Yet notwithstanding the great void we fail to fill touching the democratic and Christian conception for the government of mankind here on earth, the struggle is certainly not a fruitless one. We are indeed the subjects of a mysterious life, and a mysterious death, ever engaged in a

struggle against the ceaseless waves of disaster, ever buoyed in the struggle by the beacon lights of hope which lure us onward with a mystic fascination.

In view of this order of things here it is seen that there would be no utility in the struggles for the betterment of mankind if this life were the end, but in view of another life the deep philosophy of these struggles is seen.

183. It would seem to be in harmony with the economy of things that the millenium should come in the spirit world when we are relieved of the necessities of the flesh.

184. The Divine Intelligence being a spirit and of refined substance and mankind being endowed therewith in his creation and the same being of a quality *eternal* it results that it is indestructable and survives the destruction of the physical body.

185. Those who have kept up with the Darwinian literature during the last quarter of a century will have observed that Prof. Haeckel has been the champion advocate of that theory—like-wise that he is a Monist and excludes from the universe soul-spirit, and God. It has been shown that he is not only very much biased but is somewhat reckless of the truth in his advocacy of the Darwinian theory, so much so that he has been much discredited in this respect for his misrepresentations by photographs taken of certain species after having clipped and trimmed the same to give the appearance of an evolutionary develop-

ment thereof as evidence in support of his contention.

186. That mankind is a creation endowed with a spirit immortal has been the belief and teachings of the philosophers of all the ages of mankind, including the distinguished Socrates and Plato, who taught the same long before the coming of Christ. It seems now to be left to Prof. Haeckel and his Monistic following to deny the same.

187. The great Designer left a record of the facts touching the career of the earth from the earliest period of its existence here. It is for us to carefully read that record and thereby know the truth.

That record is the geological record found throughout the earth's crust. There we see the kind of life on the earth in each geological period. There we see how the coal veins were made, how the precious metals were produced. There we see the evidence of cataclysms and catastrophes on the earth, likewise the tracks of the glacier and the presence of the permanent cold storage at each pole, and lastly the presence of mankind on the earth.

188. Darwin was not a geologist. Had he given even a quarter of the time and study of the geological record of the earth and of the records of the doings of mankind upon the earth that Couvier did, doubtless he never would have entertained his theory of the descent of species.

189. It seems clear to the careful observer,

I think, that every individual is endowed or possessed with a measure of intelligence in a manner suitable and commensurate with its sphere of action; so are the individuals of the microscopic world, the insect world, including bees in their hives and ants in their hills, and the higher order of life on the earth, and so on throughout the universe. It follows, I take it, that such is the case with all the individuals of life throughout the entire universe. In this view it seems plain that our solar system is an individual in space; that the sun is the head and intellectual seat of that individual, and that the intelligence thereof is suitable to and commensurate with its sphere of action. In view of the fact that the universe is a live, going thing, full of matter and individuals characterized with life and intelligence, the view stated seemes self-evident. New creations are constantly occurring as results of the eternal life and the eternal motion of the matter of the universe, and of the designs of the intellectual forces of the universe. It is seen that mankind is a part, a very small part, of the whole. The hope we cling to, touching our future, may be based upon two facts that seem to be clearly established:

First. Mankind is a creature, and as such was created for a purpose.

Second. He is endowed with an intelligence which is of the intelligence of his Designer, and is of the quality eternal.

190. Human automatism has engaged the attention of some of the best thinkers, and many

curious facts have been gathered touching the automaton characteristics of insects, animals and man. It will be noted that the earth is entirely automaton, entirely void of force, yet every living creature she bears is more or less charged in some degree with the force intellectual, as distinguished from mechanical. In man, the force intellectual is pre-eminently superior to the same in any other creature on earth. From whence comes this force? And what are its possibilities? In the force, or forces of the sun, there must be a force intellectual, else intelligence is an attribute of the unified force of the sun. The earth seems passive, with no such force as a part thereof. Every organic being on earth is possessed of this force intellectual, in some degree, as an attribute of its existence, its identity.

191. It being an incontestible proposition that all life on the earth must trace its origin, its source, to the contact with the sun's elements, with the earth's elements, it follows that this force intellectual is from or by way of the sun.

192. It may be said that this force intellectual is God in the universe, and that He comes with, and is part of the things eternal hereinbefore enumerated, viz.: time, space, intelligence, matter and the laws thereof. And this is doubtless the truth of it; if not so, whence the source of the Force Intellectual, and likewise the God, the Designer, in the universe.

193. It is already conceded in scientific circles that light and electricity are one. The sun is

a source of electricity. Is the Force Electric any easier of comprehension than the Force Intellectual—the spirit within us?

194. I here present a specimen block of knowledge from the Darwinian school, as follows:

“Professor Haeckel has settled the fact of the missing link. He says it will never be found; for the simple reason that it does not exist. When Lord Kelvin told the world that the earth had attained the respectable age of twenty-five million years, the statement was received with placid interest; but when Professor Haeckel says, as he now does, that science has established the absolute certainty that man has descended through varied stages of evolution from the lowest form of animal life during a period estimated at 1,000,000,000 years, the mind is simply paralyzed in the attempt to grasp the idea of practically limitless time. Recent discoveries of fossil remains in Java, Madagassar and Australia have made still more complete the evidence, available proof and discoveries, wherewith the names of Lamarck and scores of other discoverers — pre-eminently Darwin — are most commonly associated. Professor Haeckel says that the monophylectid origin of all mammalia, that is to say, their origin from one common parent form, from monotremata upward to man — is no longer a vague hypothesis but an established fact. He thus defines this progress: All the living and extinct mammalia which we know are descendant from a single common ancestral form which lived in the Triassic or Permian period, and this form must be

derived from some permia or perhaps carboniferous reptile allied to the prog-onosauria and Theriodontia which was derived from a carboniferous amphibians, in turn, descend from Devonian fishes, and these again from lower vertebrates. The most important fact is that man is a primate, and that all primates—lemurs, monkeys, anthropoid apes, and man—descended from one common stand. Looking forward to the twentieth century, I am convinced it will universally accept our theory of descent. When asked if he would not take off from the computation of the age of the evolution of man a few hundred million years, Professor Haeckel replied that it was impossible; the computation was not his; he had taken the time from one of the most eminent geologists.”

195. I submit that if there are no fossil remains of connecting links (missing links) in the strides of the assumed evolution and descent of the species, the proof of the descent claimed is entirely wanting. In view of the fact that the earth's strata do not contain the fossil remains of connecting links, it results that there are no such links, nor descent. It has always been conceded that evidence of this kind was essential to uphold the Darwinian conception, and it was claimed that such evidence would be found. In every one of the many instances that it has been proclaimed that the connecting link had been found it was afterward found to be false; in fact, Haeckel now seems to have the courage to stand forth alone against the necessity for such proof.

196. And I further submit that such extravagance in the use of time as Haeckel and his geological friend indulge in, is enough of itself to condemn them, as well as any system requiring such extravagance for its maintenance.

That the production of anything more extravagant than this specimen from the Darwinian workshop would require the joint efforts of more than two scientific thinkers. The late Professor Virchow, of Berlin, expressed his views on the Darwinian conception as follows: "The attempt to find the transition from animal to man has ended in total failure. The middle link has not been found and will not be found. Man is not descended from the ape. It has been proved beyond a doubt that during the past five thousand years there has been no noticeable change in mankind."

Professor Huxley, on the same subject, as follows: "After much consideration and with assuredly no bias against Mr. Darwin's views, it is my clear conviction that as the evidence now stands it is not proved that a group of animals having all the characteristics exhibited by species in nature, ever has been originated by selection, whether artificial or natural."

St. George Mivart, late Professor of Biology in University College, Kensington, expressed himself on the subject as follows: "With regard to the conception as put forth by Mr. Darwin, I cannot truly characterize it, except by an epithet I employ with great reluctance. I weigh my words and have present to my mind the many distin-

guished naturalists who have accepted the notion, and yet I cannot call it anything but a puerile hypothesis."

197. It is folly, I think, to talk about the age of the earth, because the materials thereof have existed throughout all past time. In the original formation of the earth, when the solids separated from the fluids, the earth was entirely enveloped in water; some time thereafter the dry land feature began, together with an order of life on the earth, as evidenced by the fossil remains thereof.

Thereafter followed the several geological periods, with the orders of life peculiar thereto. I contend that the life peculiar to each of these periods did not descend from the life of the previous period, but were in each and all of the several periods original creations. Certainly the order of life in the first period did not descend from any previous period, and certainly was an original generation or creation.

The creative or generative forces are always present and produce according to the conditions present. The assumption that it takes these forces one billion years of time to produce any of the species on the earth is, I think, beyond the range of reasonable thought and expression.

198. The trees of the forest of this continent are here, not by any intercourse with the trees of any other continent on the earth, nor are the trees of the forest of any other continent on the earth there by any intercourse with the trees of this con-

continent, but they were in their beginning distinct, without relation to each other, except that they were similar and evidently the product of materials and forces much the same.

This is likewise true of the original insects, the animals and people of the several continents; they were there in their beginning, indigenous to the vaporized elements there. Indigenous to the soil, so to speak, they were produced in their respective continents as the result of the contact of the elements and forces not of the earth with those of the earth. None of the continents of the earth were barren of the materials to such result. They were all susceptible and exposed to such contact and were thus fruitful of the things they exhibit at present, and in the same they borrowed not from each other.

That their fruits are similar, is accounted for in that the forces, laws, material and intellect which thus contributed to their being, though exotic or foreign to the earth, were the same. They are similar and of kin in that they are by the hand of the same Creator, of and by the eternal laws dominating matter.

199. Man seems to be an organic creature of something earth-like, unified and identified with intellect, and that intellect seems to be of a quality exotic, and the two seem to be in harmonious union; but, like the waves of the ocean, the intellect ever beats and breaks against the shores that confine it.

200. Is not our ideal the counterpart of our

real, the buoyant promise of something better than the real of earth, and is it not so in the economy of things in order to make the existence of our sensitive intellect while in the flesh endurable and enjoyable? There being no such quality in the instinct of the animals nor any other creature of the earth save man, it follows that it is peculiar to man and doubtless to all those above his rank.

201. The caterpillar dies the death of an ugly crawling worm of the earth, but lives again in another element and sphere—a beautiful winged creature.

202. The Darwinian conception is out of accord with this as well as every other expression of the laws of the universe, as I read them. The Darwinians, like the builders of that tower on the plains of Shinar, are now in a confusion of tongues in the vain effort to span the infinite.

That the conception is erroneous seems evident from the countless pages of meaningless words which they have piled up in the effort to verify the accuracy of it.

203. The cliff dwellers, the ruins of whose dwelling places are now found in Arizona and in New Mexico, are of the same people, I think, as the mound builders, the ruins of whose dwelling places are found in Ohio and elsewhere in the Mississippi valley; the apparent difference in the effect of time upon the two is largely accounted for in the difference in the elements present and operating in the respective localities, the one be-

ing high and dry, the other being comparatively low and wet; besides, the cliffs may have been their later and last place of retreat.

204. I believe, with the great Cuvier, that the age of the present geological period is probably from five to ten thousand years, that is to say, it is from five to ten thousand years since the last cataclysm—the last glacier, the last extraordinary creation, so because there is nothing in the record made by the creatures of the earth nor by the catastrophe that does not accord with this view, while the evidence in support of it is, I think, conclusive.

205. I believe the cliff dwellers and the mound builders were of the original creation on this continent following the last cataclysm, and that portion thereof then generated dwelt here until exterminated by the more powerful peoples on the north and south of them. So because of the evidence present and of the law of infinite variety in all expressions of the laws of nature, and the fact of the variety of mankind as created on the other parts of the earth.

206. It will be observed that in North America—a portion of the earth much favored by the force of nature in many respects—that the people dwelling there had not until recently made any considerable advancement in the arts or in making lasting monuments of any kind on the earth. Nothing save the mounds and the excavations and works in the cliffs; while in Africa and Asia there are many very ancient and lasting and wonderful

monuments to mark the doings of the dwellers of that portion of the earth—while the Americas, being peopled by vigorous races of mankind with natural endowments, were tardy and far behind their brethren of Asia and Africa and Europe as well.

This, I think, is accounted for in the fact that in Africa and Asia they had the elephant and camel, and in Europe the horse, as beasts of burden to aid them, while in the Americas there was no animal to assist mankind in this respect. Even the horse was not here to aid mankind until the Spanish conquests in North and South America. So that the original mankind on this side of the earth were without any animals of strength to assist them. So it is that the mound and cliff dwellings constitute the lasting monuments of the races in North America.

207. Yet along with this startling fact we have another no less remarkable, and that is the fact that in the period preceding this period, that is to say prior to the last catastrophe, we had here in North America, in Georgia, In Kentucky, and elsewhere, not only the elephant but other large and powerful animals, evidenced by the remains thereof now found in these and other localities. Not one of these, however, has any descendant here now, nor had any after the glacial period.

The evidence being conclusive that on this side of the earth the catastrophe—the glacial—constitutes a *hiatus* between the order of life here before the glacial and the order of life here after the

glacial, and that the subsequent order of life was an independent and original creation.

208. Doubtless there was design in leaving this side of the earth bereft of beasts of burden in the new creation wherein man first appeared on earth, so that this side of the earth might remain to a later day for the operations of the races of mankind.

Man was not present in the previous creations, probably because the earth was not yet conditioned for his presence. The oil of the earth had not yet forced its way to the surface. The coal and gas of the earth and the precious metals had not yet been fully prepared for his operations, and not until the permanent ice storage now at the poles of the earth to modify and condition the climes of the earth and to produce the present air and water currents for land and ocean was the earth properly conditioned for man's presence.

209. The faculties, the passions, the sexual organs, all are characteristics of the creatures of life on this earth, and have been since the original creation thereof; that the bee, the ant, the spider, the rattlesnake, the leopard, the elephant, the whale, and mankind now on the earth were so equipped and conditioned in the original creation of them all as a result of the last cataclysm, and in and by due process of law, I have no doubt.

210. The All-comprehensive Intelligence of the universe, whether called God or by any other name, it would seem, must be seated similar to our own intelligence, in some head or place, and exer-

cised through and by the matter of its seat and environment, and so it was that it was a participant in the creation of the creatures of earth, and thus it is that mankind is a creature by design and of exalted characteristics, unlimited and God-like in his possibilities, but obscure and meager in comparison by reason of his remote connection.

211. These I take to be established facts: First—That there is abiding somewhere in the universe, beyond the earth and mankind, an Intelligence far superior to that possessed by mankind.

Second—That man is a creature here whose origin does not rest solely upon the elements and forces of the earth; his body, his intelligence, his organs, his sex, his passions—all are evidences of the fact that forces beyond the earth were participants in his coming here.

Third—That in the creation of mankind, and the subordinate creatures of the earth, that superior Intelligence was not absent, but was present, an active participant therein.

212. The face of the earth is about three-fourths ocean and one-fourth land. The larger inhabitants of the ocean are in about the same proportion larger than those of the land, and presumably the thing holds good as to the smaller things of life, in their minimum size. In stellar space the things of life there, it would seem, would likewise be proportionately large and small.

213. The universe is unlimited in space, filled with matter—the elements of life—living things—and Intelligence. That is to say, identified

things of life and intelligence abound throughout the universe, in their respective spheres, with life and intelligence commensurate therewith.

214. I submit the following as being a correct statement about the animalcule, as far as it goes, and in language plain:

“Many microscopic animals you can find—if you know where to look and have some scientific friend to help you catch them—in small pools, ditches, and various damp places.

“But because you find microscopic animals, even in large numbers in stagnant water, you must not believe that ‘all water is full of little animals,’ as we sometimes hear stated very incorrectly by people that do not know. The scientific man takes a drop of water in which some plants have decayed and shows by the aid of a powerful microscope, many swimming and wriggling forms; he sometimes omits to explain that this is not ordinary drinking water, hence a wrong idea of microscopic life in water is often held by those who have not studied nature’s wonderful homes.

“Among the most wonderful of these tiny animals in water is the amœba, that looks when at rest like a tiny flake of jelly. When the amœba starts to walk it can thrust out leg-like extensions from various portions of this jelly mass and use those that point in the direction it wishes to go.

“These extensions of the little amœba and of other members of the family have somewhat the appearance of the tiny roots

of plants; hence the little animals are called 'root-footed.'

"The little amœba can eat a plant much larger than itself in a method somewhat similar to that of a starfish eating an oyster, by merely surrounding it.

"Scientists claim that the amœba never dies—except, of course, when destroyed by accident or eaten by some larger animal. When the amœba becomes above the ordinary size it extends itself out somewhat in the shape of a dumb-bell. A little later the two globe-like ends are entirely separated, when each portion swims away as a complete little animal.

"But the amœba is only one of the large number of these strange root-footed animals. Many of these others live in the ocean, while others live in fresh water, or even in damp places on land. In fact, they occur almost anywhere that is not too dry and the water is clean. We can find them on the bark of trees, on the dripping rocks near waterfalls, in the ooze at the bottom of ponds and ditches, in the slime on submerged objects, on the under side of floating leaves, and in the water which we squeeze out of bog moss. And many live in shells, which, like the shells of clams and snails, are formed from the creature's own body, or are built up of sand grains and the hard parts of other minute animals and plants. Some of these little fellows are green, some are red or brown, some are nearly black and some almost as clear as glass. They are often shaped like an egg, or a helmet, or an Indian pot, and have a single opening at the bottom of the shell. Through this opening the

animal thrusts out its legs and with them crawls along and seizes its food.

"Instead of blunt, irregular, 'make-believe' feet, some have straight, slender rays, two or three times as long as the body. One of these is the sun-animalcule, common among floating plants, in standing water. It is so named because, with the round body and projecting rays, it looks for all the world like the picture of the sun in old prints. When some similar creature touches these rays, it seems to become paralyzed, and is drawn down the surface of the body to where a sort of lump rises up and swallows it. If the prey is too big for one ray to manage, half a dozen will surround it, becoming more or less fused together, while the lump which rises up to engulf the morsel is half as large as the animalcule itself.

"The sun animalcule floats and moves onward in a mysterious and unknown way; while some others do not move about except when they are very young, but stand on long stalks and have a sort of lattice-work shell, the rays streaming out through the holes. As many as forty individuals of still another kind will tie themselves together by long bands, so that, being bright green, they look much more like some minute water-plant than like a colony of animals.

"These are only a few of some hundreds of different kinds, many of which are likely to turn up unexpectedly almost anywhere. Indeed, one of the charms of studying these rhizopods (which is simply Greek for root-footers) is that one

can never tell what queer things he will find next."

215. In connection with the foregoing, I add the following facts:

First—That there is no evolvment in the animalcule world, notwithstanding the long life of the individuals thereof; they all remain steadfast in the grooves in which they are first cast.

Second—That they are original creations which constantly proceed under the ordinary conditions of sun heat and moisture now present.

Third—While these microscopic creatures are very small in comparison with whales, elephants and mankind, yet whales, elephants and mankind are much smaller in comparison with the suns of the universe.

216. When we behold the heavens through the telescope or by the naked eye and contemplate the magnitude and grandeur thereof, the presence there of an Exalted Intelligence—Divinity—God—if you please, is irresistibly impressed upon us.

217. This Intelligence, or God in the universe, in the nature of things and by all the types we see, is commensurate with that grandeur and magnitude; nor is it a creature of and to itself standing separate and apart from the material things of the universe—that is to say, not of the universe, but outside of it or over and above it; such Intelligence or Divinity is manifestly in and of the universe, in some way and to some extent; this Intelligence permeates the material of the

universe as the intelligence of the creatures of the earth permeate the material of such creatures.

These self-evident facts force us to the conclusion that there are seats of Intelligence or Divine force and power throughout the universe.

218. The fact that the suns of the universe are of the seats of this Intelligence of Divinity is conclusively forced upon us because all facts are against such seats being anywhere else. When we concede that there is an Intelligence beyond our earth higher and grander than the intelligence of man, it is impossible for us to locate it elsewhere than in the suns of the universe.

219. The microbes in their lair, the animalcule in their world, the ants in their hill, the spider in his web, the bee in his hive, man on the earth, our solar system in the heavens are, each and all, I think, creatures of life, instinct and intelligence. When we open the mind to a contemplation of the universe, that which fills and occupies illimitable space, that great throng of individuals therein and thereof constituting the milky way is, in a sense, a multitude, like the microbe in his element, and man on the earth in his sphere.

220. Swarms and throngs of living creatures populate the earth, and likewise populate the heavens.

A sun system, with its planets, comets, asteroids, etc., I take to be an organized inhabitant of its peculiar region in the universe, and the sun is the head of this organic individual in space, and

the seat of Intelligence by which it acts, as much so as is the head of man the seat of his intelligence—the one is typical of the other.

221. The proposition that intelligence is absent everywhere in our solar system except in the heads of the creatures of life on this earth, cannot be accepted by any mind capable of any range of thought.

Likewise is the proposition equally unacceptable that Intelligence or Divinity abides in some region or space separate from any material or organic system.

According to the types seen here on earth, it appears that the intelligence of the universe, being commensurate with the affairs of the universe, must have its heads and seats therein.

222. Two laws stand firmly out against the Darwinian conception of the origin of the species by the evolvement forces:

First—In the lower orders of life in the microscopic or animalcule world, there is no evolution; the creatures thereof remain steadfast to their groove and never die except when crushed.

Second—Mongrels are barren like the mule.

These two laws would have to be abrogated to make a way for the Darwinian conception.

223. In the Darwinian conception it seems to be assumed that there is nowhere in the universe the power to create the things of life that we now see on the earth; that is to say, it is not possible that mankind and the other species could have been created outright. In other words such source

of their origin here is denied by those of the Darwinian school.

In the Darwinian conception it is asserted that the things of life we see here upon the earth are in and of themselves by their environment and heridity their own authors and builders. It will be seen that this is in harmony with the Monistic doctrine so strenuously advocated by Professor Haeckel. Those of that faith assert that the universe is run by natural laws to the exclusion of mind or intellect, Divine or otherwise.

Of course if there is no comprehensive Intellect or God in the universe, then there is no Creator or Designer of mankind, and the other things of life on the earth. On the other hand, if there is an All-comprehensive Intellect or God in the universe, then that Intellect or God is the author and designer of mankind and the other things of life on the earth.

224. Those of the Darwinian school who think it impossible for the All-comprehensive Intellect or God in the universe to have created mankind and all other things of life, outright, seem to be willing to help out the natural laws if they are the authors or the All-comprehensive Intellect or God, if such is the author, by the generous contribution of an imaginary thing for a starter which they name protoplasm. So we have the believer in God, and the unbeliever in God happily dwelling together in the Darwinian faith.

This protoplasm creation of the Darwinians out-miracles all the miracles; and the Darwinian

Christians donating it to their God for a starter in His work, and the Monists likewise donating it to their laws of nature, exhibit a generosity sublime indeed.

225. The Darwinians do not and cannot bridge their way from nothing to something, from eternal void and to a boundless universe full of matter, with that matter its own creator. By the self-evident facts that stare us in the face, it is seen that such is not the case. These are the facts:

There was never a state of nothingness. Time ever was and ever will be without beginning or ending. Likewise *space*, *matter*, and the *laws thereof*, with numbers and mathematics, and therewith a comprehensive *intelligence* or mind. They are all of the eternal, without beginning or ending, and as I am impressed, the suns of the universe are the seats of creation and Divine Intelligence.

It will be observed that the conception herein presented is of extensive scope and that in order to make progress in stating the same, the matter contained in each paragraph is necessarily much condensed. It will likewise be seen that the whole subject may be condensed into three simple questions, viz.:

Is there intelligence superior to human intelligence elsewhere in the universe?

Is that intelligence the source of the intelligence of mankind?

Is mankind a creation, and by that superior intelligence?

These questions being answered in the affirmative, the Darwinian conception is without a leg to stand on.

226. Viewing the human race in action upon the earth, we see that the individuals thereof are endowed with a quality of intelligence and passions most wonderful for contemplation. The life allotted to them here, while brief in length of time, is full of attractions to engage the intellect and to move the passions. Unlike all the other creatures of the earth this intelligence and these passions have an almost unlimited range and are fraught with powers and possibilities for good and for hurt without limit. In this great theater of action we are made to see that the highest wisdom is to use this intelligence to restrain the baser passions and to exercise the higher virtues.

In viewing this great theater of action and the human wretchedness and the cruelties therein many short-sighted individuals conclude that it is impossible that a Divine Intelligence could be the Author and Designer of such a scheme; and if we are to shut our eyes to all else than this life such conclusion would be justifiable, and the Monistic conception of Professor Haeckel would seem to be correct. But in view of the fact that the Intelligence with which the individual is endowed is not of the earth but is exotic, eternal, immortal, and survives the life of the body in which it held its identity, the scheme is a grand one indeed and in

keeping with the eternal laws of the universe and the economy of things, because this life is thus seen to be the great preparatory or training school for a continued existence elsewhere, possibly in the other planets of this solar system, certainly so far away as to put those remaining here out of touch with those who go out of the life here.

The vast opportunity for those highly endowed with intelligence to acquire great power in affairs for good and for the exercise of the higher virtues—hope, faith, and charity—in aiding and comforting those less fortunate, resulting in a higher development of such intellect, thus subordinating the selfish and the sordid passions, we see by contrast with the baser actions of those in like manner endowed with more powerful forces and cast in more fortunate channels than many of their fellows, and plainly see how the actions of the one are elevating in their effect and the actions of the other are degrading in their effect.

What would the individual be without this great training school of experience, and what is he and what should he be with it?

227. It is believed that it is impossible for the spirits of the dead to communicate with the living here on earth for the reason that the spirits of the dead depart at once to their destination. That they do not abide in our atmosphere nor in the ether beyond; but do abide elsewhere, possibly upon other planets, or in the sun of our system, and are therefore out of touch with us here. That since the human race was created here on earth

the individuals thereof have remained in the same, now old, struggle with the things that beset them in their pathway from their birth to the death here. The tortures, afflictions, hopes, aspirations and impressions of this struggle are constant and continue unabated; so that while the race has proceeded from its creation to the present, like the flow of a mighty river, the planets and the sun seem to be the seas into which its spirits flow.

228. Sun worshippers are those who believed the sun to be a seat of Divine Intelligence. The subject is certainly one of much interest. It is seen from the historians that in the days of Moses a very powerful people seized the government of Egypt and held it for some years, during which time they impressed their religion there by indestructible monuments. Disyckwick, in his *History of the World*, Vol. I., page 250, refers to them as follows:

“After the reign of Amenop III. the tranquility of Egypt was disturbed by the rule of the chiefs of stronger settlers, foreign princes, who were allied to the Egyptian royal family. Whatever may have been their title, it is evident that the Egyptians regarded them as usurpers, and they were unable to maintain themselves but by a rigorous military despotism. Their monuments have been found in all parts of Egypt, but much defaced or entirely ruined by the enmity of the Egyptians. We learn, however, that they abandoned the Egyptian religion and set up in its place Sun-Worship; that they built a city in the middle of

Egypt, near the modern village of Tel-el-Amavinch, and raised the temples at Thebes and elsewhere. Manetho appears to have noticed their rule, for Eusebins, in the second part of his chronicles, mentioned that during the reign of Amenophis (Amenop III.) 'the Ethiopians migrating from the River Indus came and dwelt near to Egypt; by an anonymous author, given by Syncellus, we find the following passage immediately before the mention of Oros, Amenoph's son and legitimate successor: 'The Ethiopians coming from the River Indus settled near Egypt.' Several kings of this race ruled after Amenoph III., of whom the most important was Amenoph IV., or Berk-en-aterna. The duration of their power probably did not much exceed thirty years. The religion of these foreigners is a matter of great interest, as it presents us with a very ancient example of pure sun-worship. The sun is represented as adored by them under the form of a disk whence issue numerous rays, each terminating in a human hand, one of which presents to the worshipper the symbol of life. It appears that they adored one God, whom they supposed to be resident in the sun, and operating through its rays; and that they worshipped this God through the medium of the sun and its rays.

"Precisely how and whom the sun-worshippers were expelled from Egypt or destroyed, does not appear; though it can scarcely be doubted that Oros, the har-emheb of the monuments who succeeded them, was the Prince by whom they were overthrown. Har-Em-Heb was a son of

Amenoph III. and with him was continued the legitimate line of Disapolite sovereigns."

229. Long thereafter when Jesus Christ was on earth there was the Essen sect who were in a large measure sun-worshippers, and it is asserted and believed by many that Jesus Christ and John the Baptist were both members of that sect. It is clearly seen from the historians that the sun-worshippers or those who believed the sun to be a seat of Divine Intelligence were of the more intelligent and exalted people of the race, and not of the lower and more ignorant people. The conception of the sun worshippers being one of deeper thought than the conception that God was a big personage fashioned after the characteristics of a reigning king, the latter being within the grasp of the child mind while the former was not.

230. I now submit a test question which I think comprehends more of importance touching the recent geological history of the earth and the coming of mankind upon the earth than any other question yet considered in that connection, viz.: Would the sun's heat on the earth accumulate in the absence of a cold storage on the earth?

231. My answer to the question is that the sun's heat on the earth would accumulate in the absence of a permanent cold storage on the earth. And these are my reasons in support of the correctness of this answer:

232. Not until the present geological period did we have the permanent cold storage of ice on

the earth. That body of ice at both poles of the earth is a matter for deeper study I think than our college professors have given the subject. However, this results doubtless because of the fact that the subject is not on the college curriculum.

233. Upon reflection it will be seen that no such ice storage was present on the earth in the periods preceding the present period. This is seen from the fact that we find tropical animals preserved in the ice and freeze of all the present frigid zones, likewise the proof of tropical plants there.

I am now referring not to the fossilized remains of animals, but to the animals preserved in the flesh in the ice and to the bones of those preserved in the freeze of the surface of the earth.

234. This fact, without naming others, is conclusive proof that the ice of our now frigid zones was not there until the inauguration of our present period—in short, it is evident that a catastrophe which changed the climes of the earth intervened between the present period and the one immediately preceding the present period, and that the storage at the poles is a result of that catastrophe.

235. The present heat now given to the earth by the sun and the cold given to the earth by this ice storage at the poles constitutes very interesting subjects for consideration. The Equator is the base of the heat supply, while the poles constitute the base of the cold supply. It is evident that the heat supply is constant and regular, and I think it is evident that the cold supply is likewise

constant and regular. That there is a permanent equilibrium (so to speak) between the two.

236. While it is true that the ice storage is constantly wasting away, yet it is likewise true that it is being constantly and commensurately supplemented by the vapor moisture that rolls over polewards from the equator as a result of the heat there, and which is condensed and brought down in rain and snow in the region of the poles as a result of the cold there.

237. Before the earth had this cold storage of ice it was covered with great heat. The heat then was not confined to the present tropical and temperate zones of the earth, but was all over and very intense even to the regions of the present frigid zones. A moment's reflection will show that this was necessarily the case in the absence of the cold storage we now have. I think furthermore that the heat of the earth from the sun in the absence of the cold storage would accumulate and increase under the conditions present in the period preceding the present period, so that all land animals were driven polewards thereby.

238. I think it is plainly seen that when the last grand catastrophe occurred and with the glacial as the closing incident thereof, all land animals had been driven by the heat of the sun on the earth far towards the poles of the earth to escape the intense and accumulating and increasing heat of the present torrid and temperate zones of the earth, and that the now torrid zones of the earth were thereby bereft of animal life; thus it results

that we do not have the remains thereof in the present torrid zones, and do have them preserved in the ice and freeze which now prevail in our present frigid zones.

239. Not until this ice storage and this equilibrium of heat and cold and system of interchange thereof was the earth in condition for the permanent maintenance of animal life, or for the permanent habitation of mankind, because if it is true that the heat of the sun on the earth would accumulate in the absence of a cold storage then it follows that in time all land animals would perish by the heat; and the ice storage seems to have been the finishing act to the earth to make it a place for mankind. Then, and not till then, was man produced on this earth.

240. While it is impossible for us to illustrate the problem by setting up a miniature earth and sun here on earth and vesting them with the same forces and subjecting them to the same laws and control as are present in, and dominate the earth and the sun in their relations to each other, yet from what we do know of them, I think we are able to give an accurate answer to the question: Would the sun's heat on the earth accumulate in the absence of a cold storage on the earth?

241. Furthermore, it is evident that the sun's heat on the earth is a result of the contact of the sun's rays with the atmosphere of the earth. In other words, it is generated here on earth by this contact. Unlike the heat reflected from a fire against an object, as we see it done here on earth.

In such case there is heat intervening from the fire to the object struck by the heat, and as the distance to such object increases, the amount of the heat decreases and with heat accordingly throughout the intervening space.

242. Not so with the sun's heat on the earth. Between the earth and the sun, this heat is not there. So it is seen that the sun's heat on the earth is as stated, a result of the contact of the sun's rays into the earth's atmosphere and so generated here on earth.

243. It follows that such heat may not escape into space nor go beyond the earth's atmosphere, but is confined and limited thereto, and in the absence of a cold storage on the earth to diminish the heat it would accumulate.

244. When we reflect and note that the universe itself is in a measure a chemical laboratory, we may see the necessity of a constant system of heat and cold upon the earth in order that it may be a permanent habitation for mankind; and when it is seen that the heat upon the earth is more of a chemical result than of that erroneous conception of heat as from a fire, the place that the permanent ice storage at the poles holds in the present system is, I think, clearly seen to be one of importance and essential to the maintenance of a constant system on the earth.

245. It results, I think, that when we read the record of facts right it will be seen that the Darwinian conception is entirely erroneous, that mankind is a recent comer on the earth, that he is

a creature of a design and a Designer, and that forces beyond the earth of both matter and mind had to do with his coming, and likewise had to do with the production of the precious and other metals in the surface of the earth, the oil in the earth, the gas and the coal veins in the earth's crust, all except the oil in the earth as results of catastrophes, and in the preparation of the earth for the coming, the occupation and the career of mankind.

246. The infinite variety of things is wonderful indeed; the unlimited variety of things here on earth in the microscopic world, the insect world, the marine world, the vegetable world, and the things of the air, and the land, and such, doubtless, is the law of things beyond the earth and throughout the length and breadth of the illimitable universe. Without limit in space there is nothing so large that another thing may not be larger and different, nor anything so small that another thing may not be smaller and different, and such a law of things would seem to be in harmony with the illimitable characteristic of the universe.

247. Does it not follow that man on this earth is not the limit of intelligent beings in the universe, but that the variety in this respect continues to other regions in space and that in the nature of things we are shown that other creatures of a higher variety exist elsewhere. How is it possible that men who pose as thinkers refuse

to look beyond the earth for the Author of mankind?

248. The earth at first after it had taken its solid form was substantially round with a uniform and even surface and was covered with water substantially with a uniform depth. The changes of the earth's crust from that uniform and unbroken condition to its present uneven and shattered condition, has been produced mainly by the action of the heat underlying the earth's crust and the water overlying the earth's crust. The first action of the earth's crust in raising above the water was doubtless caused by the cooling of the earth's crust. When this elevation occurred the results therefrom were:

First, a curling up and breaking of the earth's crust;

Second, a receding of the water therefrom and a return thereto again in heavy waves sweeping over the broken places;

Third, a filling of the crevices underlying the curled up and broken rock strata with water;

Fourth, this water, together with subsequent snow and rainfall, produced the water which continually flowed down under these turned up rock strata, and thus penetrated to the heated depths;

Fifth, thus producing the steam force referred to and which constitutes the force uplifting the earth's crust into mountain ranges, etc.

249. It will be seen that in the earlier career of the earth when the earth's crust was more uniform, these curled up strata would be far-reach-

ing, and thus it is that we then had produced thereby such long and regular chains of mountains, and had the universal or all-destructive catastrophes as a result thereof. Since the earth's crust has become so uneven and broken as it is now, we cannot have the conditions for the production of a long even range of mountains, and hence not a general catastrophe. Results from this source hereafter must be on a much smaller scale and of local effect, for this and the additional reason that the earth's crust has grown so much thicker that a general catastrophe from this steam force cannot now occur. This force may now be limited to earthquake and volcanic eruptions; the water for the steam force in the volcanic eruptions is from the sea through the cracks in the floor of the sea, at the base of the volcano.

250. The so-called scientific coterie is composed largely of college and university professors. They have taken to themselves a sort of exclusive and lofty standing in the matter of wisdom generally, and are about as bigoted in that respect as those of the church who used to take a like stand in matters of religious faith and creeds. If these college professors occupied a position by which they had better light or any more favorable grounds for knowing more or thinking better than other people, we might hold them and their sayings in higher esteem, but in view of the fact that as a general thing their education is much limited and restricted, and like that of the parrot is not only narrow but largely crammed; there is no

reason to be surprised at the fact that they have generally accepted the Darwinian conception and have done and said a great many other very absurd things.

251. The coinage of new words by some of the learned gentlemen of the Darwinian school in their discussion of the subject of "spontaneous generation," such as "Abiogenesis," "Biogenesis" and others, does not in my judgment add any force to their expressions, nor any evidence in support of their assumption of superior knowledge on the subject. See "Spontaneous Generation," Vol. XIV., Cyc. American, and "Abiogenesis," Vol. I., Cyc. Britannica. They have seen that living creatures are constantly generated here on earth, and they assume to trace the source thereof to the atmosphere; yet notwithstanding the assumption of superior wisdom on the subject, they seem dumb to the fact of the sun's existence, as well as to the fact that his is the controlling force throughout his system, and that the atmosphere itself is of the earth's elements for and subject to the sun's forces. And likewise they are profoundly dumb to the baldfaced fact that the sun's force is the force and source by and through which the expression or original generation of living things here on earth proceed.

252. The heat and life of the universe, likewise the heat and life of the sun, are, I think, undiminishable. The life and heat which the sun generates on the earth and other planets with which its rays come in contact do not diminish

the life and heat of the sun, but like the universe itself it holds the same to and within itself.

253. All earthquakes occurring out at sea produce a wave of the water of the ocean which when reaching shoal and shore piles up and overflows the beach and coast. The wave thus produced is high at shore in proportion to the depth of the water over the center of the quake or uplift force. The recent earthquake force in California was under the land, not the sea. At San Jose it forced a great flow of water from the artesian wells there, flooding the ground with an extraordinary flow of water therefrom, caused, as I take it, from a squeezing together of the rock strata enclosing the water, and by the uplifting force underneath. These facts, with many others which might be mentioned, I think, prove that earthquakes are produced by an uplift force and that the force is a steam force and is produced by the contact of heat and water down under the rock strata of the earth's crust.

254. The conception of our college professors to the effect that the sun is a ball of fire, in my judgment, a very verdant and erroneous conception of the sun and his relations to the earth.

I have read much of the works of the scientific writers to learn their views on the subject. They seem to have ignored some plain facts in the case. In the work of Professor John Tyndall, entitled "Fragments of Science," at page 58, we have the following:

"It might, however, be urged that, inasmuch as we derive all our heat from the sun, the selfsame covering which protects the earth from the chill must also shut out the solar radiation. This is partially true, but only partially; the sun's rays are different in quality from the earth's rays, and it does not at all follow that the substance which absorbs the one must necessarily absorb the other.

"Through a layer of water, for example, one-tenth of an inch in thickness, the sun's rays are transmitted with comparative freedom; but through a layer of half this thickness, as Melloni has proved, no single ray from the warmed earth could pass. In like manner, the sun's rays pass with comparative freedom through the aqueous vapor of the air: the absorbing power of this substance being mainly exerted upon the heat that endeavors to escape from the earth.

"In consequence of this differential action upon solar and terrestrial heat, the mean temperature of our planet is higher than is due to its distance from the sun."

These expressions of the learned professor are remarkable in two particulars: (1) They show knowledge of the fact that the earth gets more heat than is due it on the assumption that the sun is a mere ball of fire and accordingly radiating its heat against the earth. (2) The manifestly erroneous explanation given, to-wit: The radiation of heat from the earth. All of them except Humbolt seem to ignore the laws of chemistry and the

results of contact and of the chemical admixture of things.

The earth is 91,700,000 miles distant from the sun. I submit that the heat of the earth is a result produced by the contact of the sun's rays with the elements of the earth's covering and the vapor magnetism, electricity, etc., thereof, and is accordingly largely, if not entirely, generated here on the earth and with no resulting loss or impairment of the sun's forces.

In view of the fact that the sun's rays are a part of the sun, and that they penetrate the atmosphere of the earth, does it not result that there is no radiation of heat at all from the sun to the earth in the sense stated, but that on the contrary, the earth abides in the sun, that is to say, in the sun's rays, as a part of the sun and that that is the reason that there is no exhaustion of the sun's forces in the long run of time? Much, if not all, that we see are of the results of contact and the chemical mixtures of things.

The fire of the old flint-lock gun is a result of the contact of different materials. The sparks we see in the dark when the shod horse strikes the stony pike, and the flame produced by the intense friction of hard materials are all results of like character.

Likewise the grain of corn produced on the cob by the contact of the tassel and silk elements of the stalk.

And all living things which flow as a result of

the contact and mixture of the elements of the two sexes.

255. Who can fathom the wonderful chemical results of the mixture of matter, organic or inorganic?

The chemical results from the bread and water one takes into his system, blood, etc., etc., or the chemical results from the contacts and mixture of the elements of the earth with the water and heat of the earth and sun in the catastrophic upheavals and convulsions of the earth and ocean.

256. It is plainly seen, I think, that life-giving elements are present in the matter of the universe, and that a Comprehensive Intelligence is likewise present therein.

That mankind and all the living things of earth and elsewhere throughout the universe are fruit of these forces.

257. The earth discharges nothing, nor has it intelligence. The clouds, atmospheres and seas of the earth are its own; and therein play the forces of the sun. The living things of the earth were produced therein through and by the forces of the sun. Does it not follow that the characteristics of these living things not found in the earth are from the sun, and were given to these living things in the original creation thereof, when they were endowed with their sex quality for their propagation and perpetuation, and so given by and through the sun together with whatever of intelligence may exist in the sun or have control thereof?

It is plainly seen, I think, that in the present ordinary condition of the earth, ordinary generation proceeds, under the contact of sun and earth elements. That in the last catastrophe and the then extraordinary condition of the earth, extraordinary generation or creations occurred, under the contact of sun and earth elements; and those creations have come down to the present time through and by contact of the sex elements with which they were endowed.

258. It results, I submit, that the things of this earth are of the makeup of the design of the Designer in the creation of mankind here on earth.

The pathway of his brief career here in the flesh is beset with those things designed to engage his intelligence, affect his passions and school him in wisdom, and are for the furtherance or consummation of the design of the Designer.

The animal and lower creations are for the uses of mankind. Every member of the human family doubtless contributes something to the work in hand in the scheme of the Designer. Even those who run amuck in crime exhibit a contrast in which there is an object lesson of utility. While the physical material of the individual man seems to go the way of all else of earth, yet it would seem there must be utility in the existence and career of mankind on the earth; and if so it must be the immortal part of him, and when we grasp the truth that the immortal part of him is of the Eternal, without beginning or ending, we

reach the conclusion that mankind is a creation endowed with an Intelligence from the All-comprehensive fount, and is of that which ever was and ever will be. It results that while development may be a feature of the scheme in other worlds—Evolution here on earth in the Darwinian sense is entirely out of joint therewith.

259. In conclusion I submit that the geological record of the earth has been written and made up mainly by and as the result of cataclysms or catastrophes which have occurred on the earth.

That Cuvier's conception thereof is entirely correct.

That in the absence of the permanent cold storage we now have on the earth, the sun's heat would increase and accumulate on the earth.

That in the geological period immediately preceding the present period there was no ice storage on earth, and the sun's heat on the earth accumulated so that all animals then on the earth were driven polewards thereby; when a catastrophe occurred which destroyed the living creatures then on the earth, and by reason of the ice thereby produced on the earth as an incident to the catastrophe, the climes of the earth were changed.

That not until the inauguration of the present period with its permanent cold storage was the earth in a condition for the permanent habitation of mankind, and not until the present period with its cold storage feature was mankind produced upon the earth.

260. Mankind has met and battled with all

sorts of vicissitudes and endured all sorts of shocks, tortures, diseases and disasters; all of which go to make up the environment of which so much has been said by the college professors in their efforts to sustain the Darwinian view.

The results or fruits of these shocks, diseases and tortures have been transmitted from parent to child during the six to ten thousand years of man's career on earth, all of which go to make up the heredity of which so much has been said to sustain the Darwinian view.

From these causes mankind is now marked and disfigured by disease, deformity, degeneracy and insanity in an unlimited variety of phases and degrees. Yet the design of the original Designer of mankind remains constant and proof against the perils of them all, for throughout it all not one organ, piece or parcel of the original design of the individual man has been lost, neither has any been gained, notwithstanding all sorts of other changes have occurred as a result of these vicissitudes in the march of mankind down to this time.

From this baldfaced fact it is plainly seen, I think, that his intellect and his organs are parts of the original conception and creation of mankind, and that we must look beyond the earth for his origin and his Creator. That what the college professors have been giving us in their efforts to sustain the Darwinian view of the subject is utterly false and misleading.

261. The assertion that man is his own creator, that by environment and heredity he con-

ceived and constructed himself, piece by piece, organ by organ, each piece, parcel and organ succeeding one and another in an evolvment or development process, is not only out of joint with the truth, the laws of the universe, and the economy of things; but is utterly false according to the facts shown by the geological record of the earth's career.

It results, I submit, that the assertion is in conflict with all reason and is the most preposterous guess ever exploited by sane people.

262. Aside from all this, I think the Darwinian conception is not at all tenable in any sense anywhere.

I may add that in my conception of things beyond the range of positive proof, the universe is a thing of eternal existence, with energy, life and intelligence commensurate therewith and comprehensive thereof.

The Darwinian Evolution conception has no place in it. In things Eternal there is no beginning nor ending, hence no progression nor retrogression in the Darwinian sense.

All things here that bloom decay again. Likewise all things that progress quit and yield up again. They advance and retreat like the tides of the sea, as incidents of the going force of things, like unto the respirations of organic man. Such is the law of things here on earth. As to things elsewhere, we know but little of them. The universe and the things thereof are not set to the Darwinian conception. The scheme of the universe

is beyond anything conceivable in the mind of man, so because it is self-evident that the mind of man is incapable of accurately comprehending the eternal universe.

263. It seems that Cuvier's work entitled "On the Revolutions of the Earth's Surface and the Changes Which They Have Wrought in the Animal World," referred to herein and criticised by Professor Haeckel, had for years been out of print, until some years since it was reprinted in the French language and can now be had at the book stores in Paris and Berlin. It is a volume of 342 pages, consisting of 66 pages of eulogistic history of Cuvier, 222 pages of the work and 54 pages of appendix. I herewith append 22 pages thereof, translated from the French:

"DISCOURSE ON THE REVOLUTIONS OF THE
SURFACE OF THE GLOBE AND UPON THE
CHANGES THAT THEY HAVE PRODUCED
IN THE ANIMAL KINGDOM.

"In my work on 'Fossil Bones' I purposed to discover to what animals the bony debris which fill the superficial strata of the earth belong. This was to try to follow a road upon which but few steps had been taken. An antiquarian of a new kind, I must learn at the same time to restore these monuments of a past revolution and to decipher their meaning: I had to collect and bring together in their original order the fragments of which they were composed; to reconstruct the ancient beings to whom these fragments belonged; to reproduce them with their

proportions and their characters; and finally to compare them with those which live today on the surface of the earth. This was an almost unknown art and one which pre-supposed a science scarcely glanced at heretofore, that of the laws which govern the coexistence of the forms of the different parts of organized beings.

"If there is any interest in studying the almost effaced traces of the history of extinct nations, why should there not be an equal interest in searching in the gloom of the infancy of the earth for traces of revolutions anterior to the existence of all nations? We admire the energy by which the human mind has measured the movements of globes which nature seemed to have screened forever from our view; genius and science have surmounted the bounds of space; observation elucidated by argument has unveiled the mechanism of the worlds. Will it not be some glory for man to surmount the bounds of time and to recover by means of observation the history of the world and the succession of events which have preceded the birth of the human species?

LOST SPECIES ARE NOT VARIETIES OF LIVING SPECIES

"But, I will be asked, are not our present species modifications of the fossil species, produced by local circumstances and changes of climate and carried to this extreme difference by long succession of years?

"This objection must appear strongest to those who believe in the possibility of the indefinite alteration of the forms of

organized bodies, and who think that the passage of time and changes in habit could change one species into another or develop all species from a single source. But if the species have changed by degrees there ought to be traces of gradual modifications between the paliotherium and the species of today, we ought to find some intermediate forms; and so far none have been discovered.

“Why has not the earth preserved the traces of so curious a geneology if not because formerly the species were not as constant as at present, or at least because the catastrophe which destroyed them did not leave them time to give themselves up to their variations.

“To reply to the naturalists who recognize that nature fixes limits to these variations, we needs must examine the extent of these limits, a curious research, very little known, but very interesting for many reasons. This research presupposed the definition of a species as, *the individuals who are descended one from the other, or from known parents, and those that resemble them, so far as they are uniform among themselves*. Thus we consider as varieties of a species only those more or less different races that could have come from it by generation. Our only reasonable guide then is observation of the difference between the ancestor and the descendant.

“But in thus considering the variations we observe that the differences that constitute them depend upon certain determined circumstances. Thus the superficial characters vary the most, the color with

the light, the thickness of the skin with the heat, the size with the abundance of food. But in savage animals these variations even are limited by the nature of the animals, who do not willingly leave the places where they find the combination of conditions most favorable to the maintenance of their species. Thus, although the wolf and the fox are found from the arctic to the torrid zone, we find no variation other than a greater or less beauty of fur. I have compared the skulls of the foxes of the north and the foxes of Egypt with those of the foxes of France, and I have found only individual differences.

“Those savage animals whose habitat is more limited vary much less, especially the flesh eaters. A thicker mane is the only difference between the hyena of Persia and that of Morocco.

“The savage herbivorous animals are more effected by the influence of climate, because there is joined to it that of the abundance and quality of the nourishment which varies with the climate. Thus the elephants are larger in some forests than in others; they have longer tusks where the nourishment is more favorable to the formation of ivory. It is the same with the reindeer and the stags. But when the two most dissimilar elephants are compared no difference is found in the number or the articulation of their bones or in the structure of their teeth, etc.

“Besides, the herbivorous species in the savage state are more restricted than the flesh eaters, because changes in the kind of vegetation join to the temperature to stop them.

"Nature has taken care also to prevent the alteration of the species by mixing, by the mutual aversion which she has given them. All the cunning, all the power of man is necessary to make them contract unions, even with the species that resemble them the most; and when the offspring are fruitful, which is very rare, their fruitfulness does not go beyond a few generations, and would not probably go so far without the continuation of the care which produced them. Thus we do not see in our woods a cross between the hare and the rabbit, between the stag and the deer, between the marten and the sable.

"But the empire of man altered this order; it developed all the variations of which the type of each species is susceptible, and developed variations that the species if left alone would never have given. Here the degree of the variation is again proportionate to the intensity of its cause, that is slavery.

"There is not much breeding in the half domesticated species like the cat. Softer skins, brighter colors, a more or less strong figure, that is all that they experience; but the skeleton of an Angora cat differs in nothing from that of a savage cat.

"The greatest variations are found in the domesticated herbivorous animals which we subject to all sorts of climates, to all sorts of conditions as to food and work. But these variations are a difference in size, in the length of the horns, or in their entire absence, a larger or smaller hump of fat on the shoulders, are all the

difference in the oxen; and these differences are preserved for a long time even when the races are transported far from their native country, when care is taken to prevent cross breeding.

"Of this nature are also the innumerable varieties of the wool bearing sheep, because this is the attribute to which man has given the most attention. They are a little less, although still very noticeable in horses.

"In general the form of the bones vary little; their connections, their articulations, the form of the large molar teeth never vary. A less development of the tusks of the domesticated boar, the welding of the claws in some of the races are the extent of the differences that have been produced in the domesticated herbivorous animals.

"The most marked effect of the influence of man is shown on the animal of which he has made the most complete conquest, that is the dog, that species so devoted to man, that the individuals seem even to have sacrificed to him, themselves, their interest, their sentiment. Carried by men into all the earth, subjected to all causes capable of influencing their development, matched in their unions at the will of their masters, dogs vary in color, in the abundance of their hair, which is sometimes even entirely lacking, their nature, in their size, that differs as one to five in the linear dimensions, and more than a hundred fold in the mass; by the form of the nose, the ears, the tail; by the relative height of the legs, by the progressive development

of the intelligence in the domesticated varieties, which influences the form of their heads, sometimes slender, with a slim muzzle, a flat forehead, sometimes a short muzzle, an arched forehead. So that the differences apparent between a mastiff and a water spaniel, a greyhound and a bull dog are stronger than those of any savage species of the same natural genus. Finally, and here is the greatest variation known today in the animal kingdom, there are races of dogs, which have a toe the more on the back foot with the bones of the tarsus to correspond, as there are in the human species some six fingered families.

"But in all these variations the relation of the bones remain the same, and the form of the teeth never change in an appreciable manner; at most there are some individuals that develop a false molar the more, sometimes on one side, sometimes on the other.

"There are then animals whose characters resist all influences either of nature or of man; and nothing shows that time has had more effect on them than climate and domesticity.

"I know that some naturalists count much on the thousands of centuries that they pile up with a stroke of the pen; but in such matters we can only judge what a long time would produce, by multiplying what has been produced by a less time. I have tried to find the most ancient documents on the forms of animals, and there are none which are equal in antiquity, and in abundance, to those furnished us by Egypt. It offers us not only

the images but the bodies of the animals themselves, embalmed in the catacombs.

"I have examined with great care the figures of animals and of birds engraved on the numerous obelisks from Egypt in ancient Rome. All these figures as far as the general outline is concerned, which alone has received the attention of the artists, bear a perfect resemblance to the species that we see today.

"Any one can examine the copies which Kirder and Zoega have given; without preserving the purity of the lines of the originals, they still offer very recognizable figures. It is easy to distinguish the ibis, the vulture, the owl, the hawk, the goose of Egypt, the lapwing, the rall of the earth, the adder or the asp, the horned viper, the hare of Egypt with its long ears, the hippopotamus and sometimes the rarer animals, such as alzazel, which have been extinct in Europe for some years.

"My learned colleague, M. Geoffroy Saint-Hilaire, impressed with the importance of this search, has had care to collect from the tombs and temples of upper and lower Egypt, all the mummies of animals that he could find. He has discovered the mummies of cats, dogs, ibis, birds of prey, monkeys, crocodiles and the head of an ox, and there certainly is not more difference between these beings and those that we see today, than between the human mummies and the skeletons of men today.

"There is then nothing in the known facts which can in the least support the opinion that the new genuses that I have discovered or established among the fos-

sils, any more than those that have been discovered by the other naturalists, the paleotheriums, the anoplotheriums, the megalonyx, the mastodints, the pterodactyles, the echthyossaurus, etc., can be the source of any animals of today, differing from them only by the influence of time or of climate. And although it may be true (which I am far from believing) that the elephants, the rhinoceros, the gigantic stags, the fossil bears, do not differ more from those of the present than the races of the dogs differ between themselves, the identity of species can not be concluded from that because the faces of the dogs have been subjected to the influence of domesticity which these other animals have neither undergone or would have submitted to.

“THERE ARE NO FOSSILIZED HUMAN BONES

“No human bones have yet been found among the fossils; and this is another proof that the fossil races were not variations, since they could never have been subjected to the influence of men.

“I say that human bones have never been found among the fossils, that is to say among fossils properly speaking, or in other words, in the regular beds of the surface of the globe; for in the peat bogs, in the alluvions, as burying grounds, human bones as well as the bones of horses or of other common species are disinterred. They are also found in the crevices of the rocks and in caverns where stalactites have accumulated on them; but in the beds which contain the ancient races, among the paleotheriums, and even

among the elephants, and the rhinoceros, no one has ever discovered the least trace of human bones. There are but few among the workmen around Paris who do not believe that the bones of which our chalk pits are formed are in large part the bones of men; but as I have seen several thousand of these bones I must be permitted to state that I have never seen there a single one of our species. I have examined at Pavie the groups of bones brought back by Spallanzani from the Island of Cerigo; and in spite of the assertion of this celebrated observer, I affirm equally that there is not one there which could be declared human. The *homo diluvii testis* of Scheuchzer has been placed in my first edition in its proper genus, which is that of the salamanders; and in an examination which by the kindness of Mr. Van Merum, I have since made at Harlem, during which I discovered parts hidden in the stone, I have obtained complete proof of what I have announced. A fragment of jaw and some human bones were found among the bones discovered at Canstart, but the earth was removed without precaution and no one tried to note the different depths at which each thing was uncovered. Everywhere else the bones said to be human are found on examination, whether in nature or only in pictures, to be those of some animal. The true bones of men were those of corpses fallen into the crevices or remaining in the ancient galleries of mines, or coated with incrustations; and I extend this assertion to the skeletons of men discovered at Guadeloupe in a rock formed of parcels of madrepore thrown up by the

sea and united by a calcarious stucco. The human bones found near Koestritz, and pointed out by M. de Schlotheim, have been announced as taken from very ancient beds, but this respectable savant is eager to make known that this assertion is still subject to doubt. There are even other objects of human fabrication. The pieces of iron found at Montmartre are the spits that workmen employ to put in the powder and which sometimes break in the stone.

“A great noise was made some months ago about certain human fragments found in the caverns of bones of our Southern provinces; but the fact that they were found in caverns is sufficient to bring them within this rule.

“Nevertheless human bones under the same conditions are as easily preserved as those of animals. There is in Egypt no difference between the human mummies and those of quadrupeds. I picked up in the excavations made some years ago in the old church of Sainte-Genevieve human bones interred under the first race, which might have even belonged to some prince of the family of Clovis, and they were still very well preserved. On a battlefield, the skeletons of men are no more altered than those of horses, if allowance is made for difference in size; and we find among the fossils of the animals those as small as the rat still perfectly preserved.

“All this then leads us to believe that the human species never existed in the countries where the fossil bones are discovered at the epoch of the revolutions which have buried these bones, for there

is no reason why they should entirely escape these general catastrophies, and why their remains would not be found today as those of other animals. The establishment of man in the countries where the fossil bones of terrestrial animals are found, that is to say in the greater part of Europe, Asia and America, is necessarily posterior, not only to the revolution which buried these bones but also to that which again uncovered the beds which contain them, and which is the last that the globe has undergone; from which it is clear that it can not be deduced either from these bones themselves or from the more or less considerable mass of stone or of earth which has covered them, any argument in favor of the ancientness of the human species in these different countries.

“PHYSICAL PROOFS OF THE NEWNESS OF THE
ACTUAL STATE OF THE CONTINENTS

“On the contrary if we carefully examine the changes on the surface of the globe, since the last revolution, since the continents have taken their present form, at least in their higher parts, it is clearly seen that this last revolution, and in consequence the establishment of our actual societies can not be very ancient. This is at the same time the best proven and the least considered result of sane geology, a result the more precious that uninterruptedly connects natural and civil history.

“In measuring the effects produced in a given time by the causes acting today, and in comparing them with those that they have produced since they began to act,

we can determine approximately the time when their actions commence, which is necessarily that at which our continents took their present form, that is to say at the last sudden retreat of the waters.

"It is at this time that our present escarpments commenced to break away and form at their feet the hills of debris; that our present rivers commenced to flow and to deposit their alluvions; that our present vegetation commenced to extend itself and to produce a vegetable mould; that our present cliffs commenced to be corroded by the sea; that our present dunes commenced to be thrown back by the wind, just as it is in this same epoch that human colonies commenced to spread themselves and to make establishments in the places where nature permitted them.

* * * * *

"VOLCANOES

"The action of volcanoes is even more limited, more local than those of which we have just been speaking. Although we have no clear idea of the causes of these violent eruptions, we can judge by their effects the changes that they could have produced on the surface of the globe. When a volcano breaks out there are several shocks, several tremblors and then it makes an opening for itself. It hurls out stones, ashes and lava, the more fluid part of which flows away, the more solid stopping at the edge of the opening, raising the contour and forming a cone terminated by a crater. Thus volcanoes have modified and then deposited on the surface matter

heretofore buried in the depths; forming mountains and covering portions of our continents, and making islands in the midst of the seas. But these mountains, these islands are always composed of lava, their materials have been subject to the action of the fire, they are deposited as such matter must be, having been poured from a high point. The volcano never elevates or throws down the beds that traverse their craters, and if agitating the depths have contributed in certain cases to raise our great mountains, they are not such volcanic agencies as exist in our day.

"Thus, we repeat, it is in vain that we hunt in the forces that now agitate the surface of the earth for causes sufficient to produce the revolutions and catastrophies the traces of which we see on its surface. We can not find sufficient cause for them in the forces operating today.

"UNVARYING ASTRONOMICAL CAUSES

"The pole of the earth moves in a circle around the pole of the ecliptic; its axes incline more or less on the plane of this same ecliptic; but the causes of these two movements are understood today, and take place in known directions and within known limits, and have no relation to the effects of which we have just shown the greatness. In this case their excessive slowness makes it impossible for them to explain the catastrophies that we have just shown to have been sudden.

"The last reason applies to any slow action that can be mentioned in the hope that their existence can not be denied but

it is always easy to remember that their slowness renders them almost imperceptible. Whether they exist or not is of little importance; they explain nothing because no slow cause could have produced such sudden effects. Granted that there has been a gradual diminution of the waters or that the temperature of the globe has diminished or augmented, none of these could have upset our beds, could have covered with ice the great quadrupeds with their flesh and their skin, could have made dry land of shellfish, still as well preserved as if they were living fish, or could have destroyed entire species and genuses.

“The greater number of naturalists who have tried to explain the state of the globe have been struck with these arguments and hardly any of them have attributed it entirely to these slow causes, still less to causes which are still operating. This necessity of finding causes different from those that are acting today caused geologists to put forth such extraordinary and contradictory theories that their very science, as I have said, has fallen into disrespect and has been ridiculed by those who see only these wild theories and forget the many important facts that they have made known. .

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“THE HISTORY OF THE PEOPLES CONFIRMS
THE NEWNESS OF THE CONTINENTS.

Nature everywhere tells us that the present order of things is not of long duration, and what is more remarkable, man himself tells the same thing by his tradi-

tion, his moral and political state, and his intellectual development at the time of the commencement of his authentic history. At first glance the traditions of some people that trace their descent back many thousands of centuries seems to contradict this newness of the present order. But when these traditions are carefully examined it is seen that they are not historical, and that all we have of authentic history and of actual documents confirm what we are told by the monuments of nature.

“None of the Western peoples have a continuous chronology going back for more than three thousand years. None of them can offer before this time, nor within two or three centuries since, a series of facts held together with any likelihood. The north of Europe has no history before its conversion to Christianity. The history of Spain, of Gaul, of England only dates from the Roman Conquest; that of northern Italy before the foundation of Rome is very little known. The Greeks confess to not having possessed the art of writing before the Phœnicians taught them thirty-three or thirty-four centuries ago; for a long time afterward their history is full of fable; the first vestige of their union with the body of the peoples does not go back more than three hundred years farther. We have only some contradictory extracts from the history of western Asia, which goes back a little less than twenty-five centuries, and admitting that the most ancient are in harmony with historical details it is raised scarcely to forty centuries.

“The first profane historian whose

works remain to us, Heradatus, is only two thousand three hundred years old. The former historians that he could have consulted only date back a century before him. One can judge what they were by the extravagances which remain to us, extracts from Aristee of Proconnese and of some others.

"Before them we have only the poets; and Homer the most ancient that we possess, Homer, the master and the eternal model of all the West, has only preceded our age by two thousand seven or eight hundred years.

"When these first historians speak of ancient events, whether of their own nation or of neighboring nations, they only cite oral tradition and not public works. It is not until long after their time that we are given pretended extracts from the Egyptian, Phœnician, and Babylonian annals. Beros wrote during the reign of Seleucus Nicator, Hieronyme during that of Antiochus Soter, and Manethon during that of Ptolemy Philadelphus. All three of them were only the third century before Christ.

"Whether Sanchoiaton be a true or a suppositious author, we hear nothing of him before Philon of Byblos published a translation of his work under Adrian, in the second century after Christ; and when we do become acquainted with it we find there for the first time as in all the authors of this kind, only a puerile theogony, or a metaphysics so disguised under allegories, that it is unrecognizable.

"A single people have preserved written

annals in prose before the time of Cyrus, that is the Jews.

“The part of the Old Testament called the Pentateuch has existed under its present form at least since the schism of Jeroboam, since the Samaritans received it as well as the Jews, that is to say that it is unquestionably more than two thousand eight hundred years old.

“There is no reason not to attribute the drawing up of Genesis to Moses himself, which will make it go back five hundred more, to thirty-three centuries; and it is sufficient to read it to perceive that it is composed in part with the pieces of anterior works. One cannot doubt then that this is the most ancient writing which our West possesses.

“But this work and all those that have been made since, strangers as their authors were to Moses and his people, present the nations on the edge of the Mediterranean as new; they show them to us still half savage some centuries afterward; more still, they all speak of a general catastrophe, of an eruption of the waters, which occasioned an almost entire regeneration of the human species and they do not make this time very far back.

“The texts of the Pentateuch which make this interval the longest do not place it more than twenty centuries before Moses, that is to say not more than five thousand four hundred years before the present time.

“The poetic tradition of the Greeks, source of all our profane history for these remote periods, contains nothing that con-

tradicts the annals of the Jews; on the contrary they accord admirably with them in regard to the time that they assign to the Egyptian and Phœnician Colonies which gave Greece the first germs of civilization; we see there that near the same century in which the Israelites left Egypt to carry to Palestine the sublime dogma of the unity of God, that other colonies left the same country to carry to Greece a religion more gross, at least on the exterior, whatever were the secret doctrines that they reserved for their initiates; while others still came from Phœnicia and taught to the Greek the art of writing and all that relates to navigation and to commerce.

“They have lacked much of having a connected history since then, as they place a crowd of mythological events and of adventures in which gods and heroes intervene, after the foundation of these colonies and connect their chiefs with history only by evidently fictitious genealogies, and most certainly all that preceded their foundation would only have been preserved in very confused memories or supplied by pure inventions, like those of our monks of the middle ages in regard to the origin of the people of Europe.

“Far from being astonished that even in antiquity there have been many doubts and contradictions as to the epochs of Cecrops, of Deucalion, of Cadmus, of Danaus, or form attaching any importance whatever to opinions as to the precise date of Inachus or of Ogyges, we should be surprised that these personages are not placed much farther back. It is possible that we find here

some effect of the ascendancy of received tradition, from which the inventors of fables have not been able to get away. One of the dates assigned to the deluge of Ogyges is so near to one of those attributed to the deluge of Noah that it must have been taken from some source when this last deluge was spoken of.

“As for Deucalion, whether he be regarded as a real or fictitious person, the slightest study of the manner in which his deluge has been introduced into the poems of the Greeks, and the diverse detail there given, will convince one that it is only a tradition of the great cataclysm, altered and placed by the Greeks at the time of Deucalion, as the founder of the nation of the Hellenes and they have confounded his history with that of all the chiefs of the renewed nations.

“Each of the peoples of Greece who have preserved isolated traditions have so connected them with a deluge, a memory of the universal deluge that was common to all people. And when in course of time they wished to form all these diverse traditions into a common chronology, they regarded these traditions as separate deluges, since the dates, all uncertain and probably false, but each regarded as authentic in its own country, did not coincide. Thus the Hellenes have a deluge of Deucalion, the founder of their people, the Authocathons of Attica, one of Ogyges, their common ancestor. The Pelages of Arcadia tell of a deluge that forced Dardanus toward the Hellespont. The Island of Samothrace, which boasted of the earli-

est cult with a regular priesthood and connected traditions had a deluge, which was regarded as the most ancient of all and which was attributed to the rupture of the Bosphorus and the Hellespont. There is the memory of a like event in Asia Minor and in Syria, and in time the Greeks attached the name of Deucalion to it.

"But none of these traditions place the cataclysm very far back; none of them refuse to explain it as to its date and its other circumstances by the variations which always creep into stories not fixed by writing.

"THE GREAT ANTIQUITY ATTRIBUTED TO CERTAIN PEOPLES HAS NO HISTORICAL FOUNDATION.

"Those who consider the establishment of nations of great antiquity are obliged to turn to the three most anciently civilized nations, that is the Indian, the Chaldean and the Egyptian, all extraordinarily alike, not only in temperament and environment, but in their religious and political institutions.

"With all three of them an hereditary caste had exclusive charge of the seat of religion, of the laws and of the sciences; with them all, this caste had an allegorical language, and a secret doctrine; and reserved the right of reading and explaining the sacred books which contained all knowledge revealed by the gods themselves.

"It is easy to see what history could have become in such hands. But no great effort of the imagination is necessary, as what it has become can be seen by examin-

ing the record of the one of these nations that still exists, that is the Indian.

“As a matter of fact there is no history there. In the midst of the infinite number of mystic theology or of abstruse metaphysics, that the Brahmins possess, and which the ingenious perseverance of the English is commencing to understand there is nothing that casts any light on the origin of their nation or on the vicissitudes of their society; they even pretend that their religion forbids them to preserve the memory of what has passed in this age of unhappiness.

“In addition to the Vedas, the first works discovered and the foundation of our knowledge of the Indians, the literature of this people, as that of the Greeks, consists chiefly of two great epics; the Ramaian and the Mahabarat. These are a thousand times more monstrous in their marvels than the Illiad or the Odessey, although one recognizes in them also the traces of a metaphysical doctrine of the kind that has come to be called sublime. The other poems which together with these two constitute the great body of the Pouranas, are only legends or versified romances, written at different times and by different authors, and not less extravagant in their fictions than the great poems. Some of the names and facts of these writings seem to resemble those found in the Greek and Latin writings, and it is upon this resemblance of names that M. Wolfert tried to extract from the Pouranas a species of concordance with our ancient Western chronology, a concordance which betrays in every line the

hypothetical nature of its basis and which can only be admitted if the dates given in the Pouranas themselves are completely ignored.

“The lists of kings that the Pundits or Indian doctors have pretended to compile from these Pouranas are only simple catalogues without details or ornamented with absurd details, such as the Chaldean and the Egyptians have; and as Tritheme and Saxo Grammaticus have given for the peoples of the north. These lists are far from according, none of them suppose a history or even a register of titles. Their basis even could have been imagined by the poets of whose works they are the source. The Pundit who furnished this list to M. Wolfert admitted that he had arbitrarily filled with imaginary names the spaces between the celebrated kings, and he confessed that his predecessors had done the same. If this be true of the lists the English obtain today, why would it not be true of those given as extracts from the annals of Cachmere by Abou-Fazel, and these lists are not only full of fable but they only go back four thousand years, more than one thousand two hundred of which are filled with the names of princes the length of whose reigns is not given.

“The era even from which the Indians compute time commenced 57 years B. C. and bears the name of a prince called Vicramaditjia or Bickermadjit. But there are at least three and perhaps eight or nine princes of this name and the same legends are told of all of them, and they all have wars with a prince named Siliwahanna.

And what is more, it is not known whether this year 57 B. C. is that of the birth or of the death of the Vicramaditjia whose name it bears.

“Finally, the most authentic books of the Indians contain easily recognized internal evidence that contradicts the antiquity attributed to them by the people, according to them by Brahma himself on the origin of the world and edited by Viasa (a name that means only collector) at the commencement of the present age, go back about three thousand two hundred years, or near to the time of Moses, as far as can be judged by the calendar which is annexed or by the position of the colures that that calendar indicated. Perhaps even those who have faith in the assertion of Megasthenes, that in his time the Indians did not know how to write; those who reflect that none of the ancients have mentioned those superb temples, those immense pagodas, the remarkable monuments of the religion of the Brahmins; those who knew that the epoch of their astronomical tables have been calculated too late and badly calculated, and that their astronomical treatises are modern and antedated, are they not prone to diminish still more the pretended antiquity of the Vedas?

“Nevertheless, in the midst of all the Brahminic fables there are traces of facts of which the concordance with those that result from the more western historical monuments is very astonishing.

“Thus their mythology perpetuates successive destructions that the surface of the globe has experienced and will experience

in the future; and that it is only a little less than five thousand years that they put the last one back. One of these revolutions which they place truthfully much farther from it is described in terms almost corresponding to those of Moses."

(The End)

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